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These curriculum outlines are for administrator, supervisor, and teacher use in planning courses at local levels according to community needs and availability of facilities, equipment, and teaching time. The guide may also be used in developing and organizing courses for manpower development and training programs. The course outlines and other guide materials were prepared under contract by the staff of South-Western Publishing Company and reviewed by consultants from the fields of teaching and administration and by specialists in the U.S. Office of Education. Unit outlines are presented for each of the following occupations, including the length of the programs in clock hours: (1) Bookkeepers, 540-780, (2) Cashiers, 480-825, (3) Tellers, 600-825, (4) Automatic Data-Processing Equipment Operators, 570-1,170, (5) Billing Machine Operators, 540, (6) Bookkeeping Machine Operators, 570-600, (7) Computing Machine Operators, 450-570, (8) Accounting-Recording Machine Operators, 330-480, and (9) Computing and Account-Recording Occupations, 390-855. Trainees are expected to have a working knowledge of English and elementary arithmetic. Job descriptions and prerequisites for training and employment are shown for each included for each subject unit. Suggested physical facilities layouts, equipment, and standards of student achievement are given in the appendix. (PS)

C.1.

# COMPUTING AND ACCOUNTING OFFICE OCCUPATIONS

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
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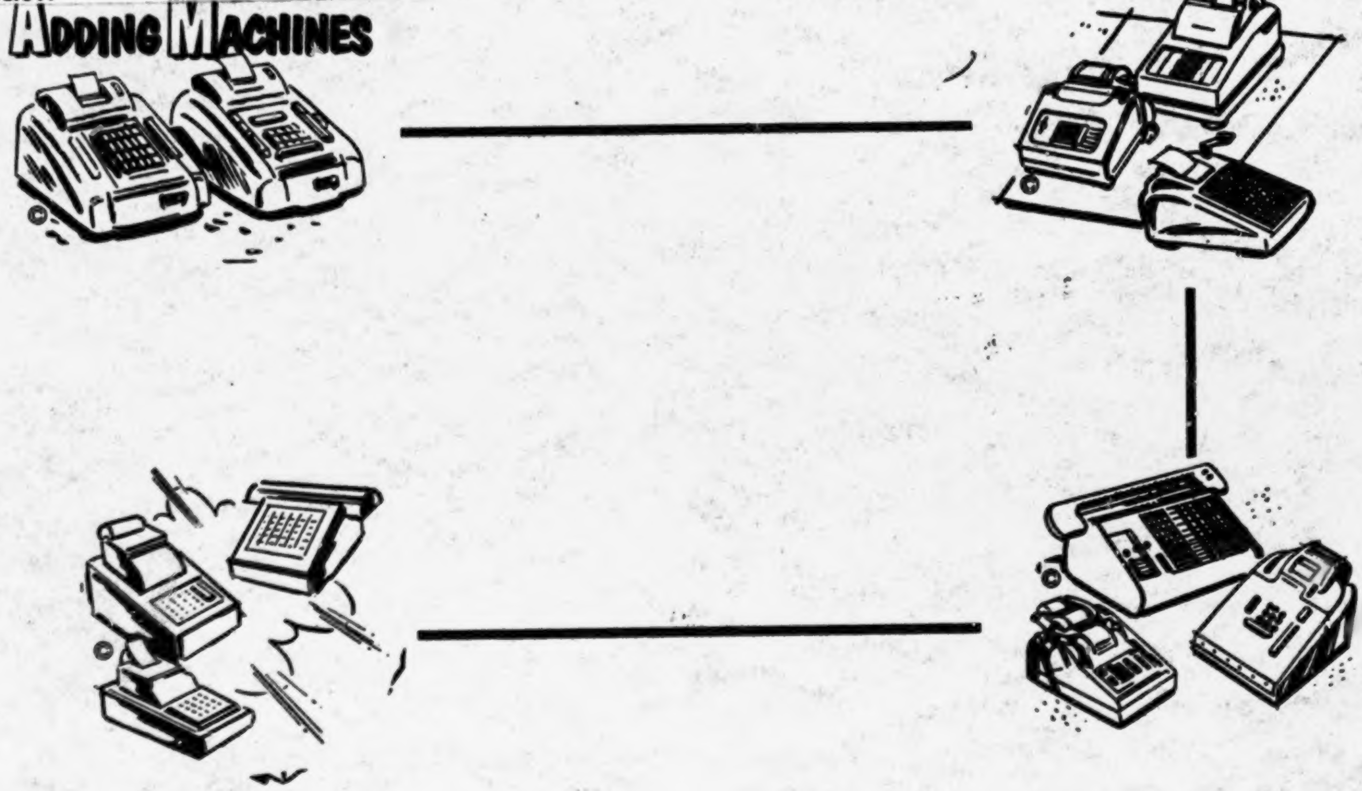
## SUGGESTED CURRICULA GUIDE



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# COMPUTING AND ACCOUNTING OFFICE OCCUPATIONS

## A Suggested Curiculum Guide

U.S. Department of Health, Education, and Welfare
John W. Gardner, Secretary

Office of Education
Harold Howe II, Commissioner

# FOREWORD

The demand for well-trained workers in office occupations calls for new and improved education programs to satisfy the need for increasing the Nation's reserve of skilled manpower. There is a place for trained office personnel with a wide range of performance competency and related work experience.

New and expanded vocational training courses should aid in satisfying the growing need for office occupations education. The placement of each trainee upon completion of the program is a desired goal of the office occupations program.

This guide has been prepared to provide suggested course content in the computing and accounting phases of office occupations. The guide contains basic course material that with some adjustment may be used in developing and organizing courses for manpower development and training programs. The guide was designed to be of maximum assistance to administrators, supervisors, and teachers.

Local advisory groups should be utilized to assist school officials in putting together course content for training programs that develop the competencies needed to meet employer requirements in the computing and accounting occupations.

The course outlines and other guide materials were prepared under contract by the staff of South-Western Publishing Company. All materials were reviewed by selected consultants from the fields of teaching and administration, and by specialists in the U. S. Office of Education. The final document reflects many of the suggested approaches offered by those who reviewed the manuscript.

Walter M. Arnold
Assistant Commissioner for
Vocational and Technical Education

## ACKNOWLEDGMENTS

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*Under each major job category there are numerous specialized jobs. It is suggested that the instructor and the administrator check the third edition, *Dictionary of Occupational Titles* carefully in order to determine the specific requirements for the many related occupations in this category.

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**Classifications are made and code numbers are assigned according to the type of work managed or supervised.

# A SUGGESTED CURRICULUM GUIDE FOR COMPUTING AND ACCOUNTING OFFICE OCCUPATIONS

## INTRODUCTION

Technological and economic developments mean changing manpower needs in the United States in coming years. Expanded educational training efforts are required to assure that the rapidly growing work force will be trained to meet these shifting needs.

To be fully effective, training programs in office occupations education require surveys of manpower resources, community skill requirement studies, training program development, aptitude testing, counseling, trainee selection, referral to training programs, job development, referral to jobs, and follow-up of trainees. Training must be directed toward specific employment needs in the area where job openings exist or toward immediate probable needs of the future.

One expanding area of employment is the cluster of jobs centered around Computing and Accounting Office Occupations. In order to physically handle the growing volume of business, with all its accounting phases, skilled people are required.

These suggested curricula provide a guide to the training of persons as qualified workers in handling accounts, performing computing operations, and preparing numerous, necessary reports.

It is highly possible that, with the passing of time, the technical changes will take place in the techniques involved in computing for and the keeping of accounting records. Possibly, with the advent of new business machines on the market, many changes may take place. However, regardless of changes affected, it will always be necessary for a qualified worker to exercise good judgment and to be proficient in the control and the handling of account records.

It is suggested that periodic reviews of suggested curricula be conducted with a view to deleting learning units, adding learning units, changing subject content, and perhaps eliminating certain occupational training categories because of technological change.

The section of this guide entitled "About the Curricula" contains pertinent information about the design and objectives of the program. Also included in this guide are suggestions for making use of the unit outlines and programs for administrative and teaching purposes. Some of these administrative suggestions may be found under the heading of "Administrative Options."

The design of the curricula is sufficiently flexible to give local administrators and instructors wide latitude in planning and conducting courses which meet the needs of selected trainees. Local facilities and training needs will, to a large extent, determine how the suggested plans discussed in "About the Curricula" are to be adapted for use in particular programs for effective utilization of instruction time, a minimum of schedule-planning time, and optimum use of available training facilities.

Appendix A provides suggestions for evaluating trainee achievement. Achievement is matched with selected occupational competencies. Job descriptions from the 1965, third edition of the Dictionary of Occupational Titles and suggested position and training prerequisites are provided for each of the computing and accounting occupations.

Each subject unit includes a list of suggested texts, references, and other teaching aids. Additional materials that may be helpful to the teacher are listed in Appendix B. These lists include the more commonly used materials in the subject fields. As with the specific course content, the choice of teaching materials rests with local school administrators and instructors. Local business firms may provide additional useful teaching materials and resource persons.

The Sample Suggested Lesson Plan in Appendix B is included to assist the instructor in the preparation of teaching guides for individual lessons. It is not intended as an example to be rigidly followed, but is offered as an illustration of one way to develop an outline topic.

The basic goals are the accelerated development of skills used in specific computing, accounting, and related occupations and to increase trainee understanding of basic office concepts and fundamental principles applicable to these fields. In view of the training goals, the teacher should provide useful and rewarding equipment operation experiences for the trainee throughout the program wherever possible.

## Training Provisions of The Vocational Education Act of 1963

Under the Vocational Education Act of 1963 office occupations training is provided at three levels; (1) entry general office worker and upgrading to skilled office worker, (2) entry specialized office technician and upgrading to office technician, (3) entry office administrative assistant and upgrading to executive administrative assistant.

The act not only makes provision for training of students above the age of 14, but it includes guidance and counseling in connection with vocational training. These specific provisions will enable the instructor, administrator, and guidance counselor to select trainees who can reasonably profit from the training. The selection of trainees should be based upon his possession of necessary attitudes, capacities, and aptitudes, in order to define and pursue a career objective and to be reasonably certain of employment expectancy within the local area.

In order to illustrate the magnitude of training available under The Vocational Education Act of 1963, the following sections of the act are quoted:

> "Section 1. It is the purpose of this part to authorize Federal grants to States to assist them to maintain, extend, and improve existing programs of vocational education, to develop new programs of vocational education, and to provide part-time employment for youths who need the earnings from such employment to continue their vocational training on a full-time basis, so that persons of all ages in all communities of the State -- those in high school, those who have completed or discontinued their formal education and are preparing to enter the labor market, those who have already entered the labor market but need to upgrade their skills or learn new ones, those with special educational handicaps -- will have ready access to vocational training or retraining which is of high quality, which is realistic in the light of actual or anticipated opportunities for gainful employment, and which is suited to their needs, interests, and ability to benefit from such training.
>
> Section 4. (a) Except as otherwise provided in subsection (b), a State's allotment under section 3 may be used, in accordance with its approved State plan, for any or all of the following purposes:
>
> (1) Vocational education for persons attending high school;
> (2) Vocational education for persons who have completed or left high school and who are available for full-time study in preparation for entering the labor market;
> (3) Vocational education for persons (other than persons who are receiving training allowances under the Manpower Development and Training Act of 1962 (Public Law 87-415), the Area Redevelopment Act (Public Law 87-27), or the Trade Expansion Act of 1962 (Public Law 87-794) who have already entered the labor market and who need training or retraining to achieve stability or advancement in employment;
> (4) Vocational education for persons who have academic, socio-economic, or other handicaps that prevent them from succeeding in the regular vocational education program;
> (5) Construction of area vocational education school facilities;
> (6) Ancillary services and activities to assure quality in all vocational education programs, such as teacher training and supervision, program evaluation, special demonstration and experimental programs, development of instructional materials, and State administration and leadership, including periodic evaluation of State and local vocational education programs and services in light of information regarding current and projected manpower needs and job opportunities."

## CURRICULA OUTLINES

### General Office Education Units (25)

| Unit Title | Code | (Clock) Hours |
|---|---|---|
| Adding and Calculating Machines | (AC) | 60 |
| Applied Office Mathematics | (OM) | 30 |
| Bookkeeping and Accounting I | (BA-I) | 60 |
| Bookkeeping and Accounting II | (BA-II) | 60 |
| Business Behavior and Psychology | (BBP) | 30 |
| Business Communication and Language Skills | (BC) | 45 |
| Business Principles and Management | (BP) | 60 |
| Correspondence and Report Writing | (CRW) | 30 |
| Data Typing | (DT) | 60 |
| Filing and Filing Systems | (FS) | 60 |
| Indexing | (I) | 15 |
| Introduction to Office Services | (IO) | 60 |
| Key-Punch Operation | (KP) | 30 |
| Office Practice I - General | (OP-I) | 60 |
| Office Practice II - General | (OP-II) | 75 |
| Payroll Records | (PR) | 30 |
| Posting Machine Operation | (PM) | 30 |
| Principles of Data Processing | (PDP) | 60 |
| Principles of Mathematics | (MA) | 30 |
| Record Keeping | (RK) | 60 |
| Skill Typing | (ST) | 60 |
| Spelling and Vocabulary | (SV) | 30 |
| Tabulating Machine Operation | (TM) | 90 |
| Tabulating Machine Wiring | (TMW) | 60 |
| Typing I | (T-I) | 60 |
| Realistic Work Experience | | |

### Specialized Office Education Units (4)

| Unit Title | Code | (Clock) Hours |
|---|---|---|
| Bookkeeping and Accounting III | (BA-III) | 60 |
| Bookkeeping and Accounting IV | (BA-IV) | 60 |
| Business Law | (BL) | 30 |
| Data Processing Library Training | (DPL) | 45 |

### Administrative Office Education Units (4)

| Unit Title | Code | (Clock) Hours |
|---|---|---|
| *Computer Programming for Business Operations | (CP) | 600 |
| Economics of Office Administration | (EC) | 30 |
| Managerial Accounting Procedures | (MAP) | 60 |
| Office Administration | (OA) | 60 |

*Optional

## CURRICULA SYNOPSES

Each computing and accounting office occupations training program is shown below with suggested length in clock hours. A training week consists of five six-hour days totaling 30 hours of classroom instruction. Variations in the length of the training day may be made on the basis of trainee caliber and administrative judgment. The training programs are suggested in clock hours rather than conventional school days, weeks, or semesters in order to make provision for latitude of complete curriculum building by the school administrator.

| Occupation | D.O.T. No. | Length of Program in (Clock) Hours |
|---|---|---|
| Bookkeepers | 210.* | 540-780 |
| Cashiers | 211.* | 480-825 |
| Tellers | 212.* | 600-825 |
| Automatic Data-Processing Equipment Operators | 213.* | 570-1170 |
| Billing Machine Operators | 214.488 | 540 |
| Bookkeeping Machine Operators | 215.* | 570-600 |
| Computing Machine Operators | 216.* | 450-570 |
| Account-Recording Machine Operators | 217.* | 330-480 |
| Computing and Account-Recording Occupations | 219.* | 390-855 |

* Note: Only the first three digits of the Dictionary of Occupational Titles number are given here since numerous specific occupations are classified under each major job category. Each of the specific job occupations requires approximately the same basic general office education units for training. However, there are some slight variations and it is suggested that the instructor and the administrator check carefully Volume II of the Dictionary of Occupational Titles in order to determine the differences in the specific job training and in the worker profile for each job (second three digits). The local need for specialized workers within each category should determine the training which is given.

### Daily Training Schedules

Since many of the occupational training programs have identical subject units for certain periods of time, trainees may be grouped in order to conserve teaching time, space, and facilities. Suggested daily training schedules are shown in the following tables. The tables show the hours of the day, the subject unit suggested for each hour, and the occupations for which the scheduling is appropriate. The code used for each subject unit can be found in the Curricula Outlines section.

**First Period - 330 to 360 (Clock) Hours**

| Occupational Training Group | | Suggested Subject Unit, by Hour | | | | | |
|---|---|---|---|---|---|---|---|
| | | 1 | 2 | 3* | 4** | 5 | 6* |
| Bookkeepers | 210.368 | T-I | IO | BBP<br>SV | BC<br>I | BA-I | MA<br>AC |
| | 210.388 | T-I | IO | BBP<br>SV | BC<br>I | BA-I | MA<br>AC |
| | 210.488 | T-I | IO | BBP<br>SV | BC<br>I | BA-I | MA<br>AC |
| | 210.588 | T-I | IO | BBP<br>SV | BC<br>I | BA-I | MA<br>AC |
| Cashiers | 211.138 | T-I | IO | BBP<br>SV | BC<br>I | BA-I | MA<br>AC |
| | 211.368 | T-I | IO | BBP<br>SV | BC<br>I | BA-I | MA<br>AC |
| | 211.468 | T-I | IO | BBP<br>SV | BC<br>I | RK | MA<br>AC |
| | 211.488 | T-I | IO | BBP<br>SV | BC<br>I | RK | MA<br>AC |
| Tellers | 212.138 | T-I | IO | BBP<br>SV | BC<br>I | BA-I | MA<br>AC |
| | 212.368 | T-I | IO | BBP<br>SV | BC<br>I | BA-I | MA<br>AC |
| Automatic Data-Processing Equipment Operators (U.S.O.E. publication number OE86010 should be consulted for additional detail) | 213.138 | T-I | IO | BBP<br>SV | BC<br>I | BA-I | MA<br>AC |
| | 213.382 | T-I | IO | BBP<br>SV | BC<br>I | BA-I | MA<br>Learning Lab |
| | 213.582 | T-I | IO | BBP<br>SV | BC<br>I | RK | MA<br>KP |
| | 213.588 | T-I | IO | BBP<br>SV | BC<br>I | RK | MA<br>KP |
| | 213.782 | T-I | IO | BBP<br>SV | BC<br>I | RK | MA<br>Learning Lab |
| | 213.885 | T-I | IO | BBP<br>SV | BC<br>I | RK | MA<br>Learning Lab |
| Billing Machine Operators | 214.488 | T-I | IO | BBP<br>SV | BC<br>I | RK | MA<br>AC |

(First period of 360 clock hours continued on next page)

* 30 clock hours of work in one of the subjects indicated and 30 clock hours of the other

** 45 clock hours of Business Communication and Language Skills and 15 hours of Indexing

## First Period - 330 to 360 (Clock) Hours (Continued)

| Occupational Training Group | | Suggested Subject Unit, by Hour | | | | | |
|---|---|---|---|---|---|---|---|
| | | 1 | 2 | 3* | 4** | 5 | 6* |
| Bookkeeping Machine Operators | 215.388 | T-I | IO | BBP<br>SV | BC<br>I | BA-I | MA<br>AC |
| | 215.488 | T-I | IO | BBP<br>SV | BC<br>I | BA-I | MA<br>AC |
| Computing Machine Operators | 216.388 | T-I | IO | BBP<br>SV | BC<br>I | RK | MA<br>AC |
| | 216.488 | T-I | IO | BBP<br>SV | BC<br>I | RK | MA<br>AC |
| | 216.588 | T-I | IO | BBP<br>SV | BC<br>I | RK | MA<br>AC |
| Account-Recording-Machine Operators | 217.388 | T-I | IO | BBP<br>SV | BC<br>I | RK | MA<br>AC |
| | 217.885 | T-I | IO | BBP<br>SV | BC<br>I | RK | MA<br># |
| Computing and Account-Recording Occupations n.e.c. | 219.138 | T-I | IO | BBP<br>SV | BC<br>I | BA-I | MA<br>AC |
| | 219.368 | T-I | IO | BBP<br>SV | BC<br>I | RK | MA<br>AC |
| | 219.388 | T-I | IO | BBP<br>SV | BC<br>I | RK | MA<br>AC |
| | 219.485 | T-I | IO | BBP<br>SV | BC<br>I | RK | MA<br>AC |
| | 219.487 | T-I | IO | BBP<br>SV | BC<br>I | RK | MA<br>AC |
| | 219.488 | T-I | IO | BBP<br>SV | BC<br>I | RK | MA<br>AC |
| | 219.585 | T-I | IO | BBP<br>SV | BC<br>I | RK | MA<br>AC |
| | 219.588 | T-I | IO | BBP<br>SV | BC<br>I | RK | MA<br>AC |
| | 219.688 | T-I | IO | BBP<br>SV | BC<br>I | RK | MA<br>AC |

# It should be noted that at the conclusion of the first training period of 360 clock hours of training one group of Account-Recording-Machine Operators (217.885) will have completed its required entry level vocational education.

### Second Period - 30 to 180 (Clock) Hours

| Occupational Training Group | | Suggested Subject Unit, by Hour | | | | | |
|---|---|---|---|---|---|---|---|
| | | 1 | 2 | 3 | 4 | 5 | 6 |
| Bookkeepers | 210.368 | AC | OM | OP-I | OP-I | BA-II | BA-II |
| | 210.388 | AC | OM | OP-I | OP-I | BA-II | BA-II |
| | 210.488 | AC | OM | OP-I | OP-I | BA-II | BA-II# |
| | 210.588 | AC | OM | OP-I | OP-I | BA-II | BA-II# |
| Cashiers | 211.138 | AC | OM | OP-I | OP-I | BA-II | BA-II |
| | 211.368 | AC | OM | OP-I | OP-I | BA-II | BA-II |
| | 211.468 | AC | OM | OP-I | OP-I# | | |
| | 211.488 | AC | OM | OP-I | OP-I# | | |
| Tellers | 212.138 | AC | OM | OP-I | OP-I | BA-II | BA-II |
| | 212.368 | AC | OM | OP-I | OP-I | BA-II | BA-II |
| Automatic Data-Processing Equipment Operators | 213.138 | AC | OM | OP-I | OP-I | BA-II | BA-II |
| | 213.382 | ST | OM | OP-I | OP-I | BA-II | BA-II |
| | 213.582 | ST | ST | OP-I | OP-I | DT | DT |
| | 213.588 | ST | ST | OP-I | OP-I | DT | DT |
| | 213.782 | PDP | PDP | OP-I | OP-I | TM | TM |
| | 213.885 | ST | KP | OP-I | OP-I | ST | TM |
| Billing Machine Operators | 214.488 | AC | OM | OP-I | OP-I | ST | ST # |

(Second Period of 180 clock hours continued on next page)

Second Period - 30 to 180 (Clock) Hours (Continued)

| Occupational Training Group | | Suggested Subject Unit, by Hour | | | | | |
|---|---|---|---|---|---|---|---|
| | | 1 | 2 | 3 | 4 | 5 | 6 |
| Bookkeeping Machine Operators | 215.388 | AC | OM | OP-I | OP-I | BA-II | BA-II |
| | 215.488 | AC | OM | OP-I | OP-I | BA-II | BA-II |
| Computing Machine Operators | 216.388 | AC | OM | OP-I | OP-I | KP | ST |
| | 216.488 | AC | OM | OP-I | OP-I # | | |
| | 216.588 | AC | Learning Lab | OP-I | OP-I # | | |
| Account-Recording-Machine Operators | 217.388 | AC | OM | OP-I | OP-I # | | |
| Computing and Account-Recording Occupations n.e.c. | 219.138 | AC | OM | OP-I | OP-I | BA-II | BA-II |
| | 219.368 | AC | OM | OP-I | OP-I # | | |
| | 219.388 | AC # | OM | OP-I | OP-I # | | |
| | 219.485 | AC # | | | | | |
| | 219.487 | AC | | | | | |
| | 219.488 | | OM # | | | | |
| | 219.585 | AC # | | | | | |
| | 219.588 | AC # | | | | | |
| | 219.688 | AC # | | | | | |

# It should be noted that during the second training period a number of the groups will have completed their required entry level vocational competency. These groups include: Bookkeepers (210.488 and 210.588); Cashiers (211.468 and 211.488); Billing Machine Operators (214.488); Computing Machine Operators (216.488 and 216.588); Account-Recording-Machine Operators (217.388); Computing and Account-Recording Occupations (219.368, 219.388, 219.485, 219.487, 219.488, 219.585, 219.688). Their work experience program is still to be completed.

## Third Period - 60 to 180 (Clock) Hours

| Occupational Training Group | | Suggested Subject Unit, by Hour | | | | | |
|---|---|---|---|---|---|---|---|
| | | 1 | 2 | 3 | 4 | 5 | 6 |
| Bookkeepers | 210.368 | PDP | PDP | BL | # | | |
| | 210.388 | PDP | PDP | BA-III | BA-III | BA-IV | BA-IV |
| Cashiers | 211.138 | PDP | PDP | BP | BP | OP-II | OP-II |
| | 211.368 | PR | PM # | | | | |
| Tellers | 212.138 | PDP | PDP | BP | BP | OP-II | OP-II |
| | 212.368 | PM | BL # | | | | |
| Automatic Data-Processing Equipment Operators | 213.138 | PDP | PDP | ST | ST | OP-II | OP-II |
| | 213.382 | PDP | PDP | ST | DT | DT | TM |
| | 213.582 | PDP | PDP # | | | | |
| | 213.588 | PDP | PDP # | | | | |
| | 213.782 | TM | TMW | TMW # | | | |
| | 213.885 | TM | TM # | | | | |
| Bookkeeping Machine Operators | 215.388 | PM # | | | | | |
| | 215.488 | PM | PR # | | | | |
| Computing Machine Operators | 216.388 | ST # | | | | | |
| Computing and Account-Recording Occupations n.e.c. | 219.138 | CRW | Learning Lab | ST | ST | OP-II | OP-II |

# It should be noted that during the third training period, the following groups will have completed their required entry level vocational competency: Bookkeepers (210.368); Cashiers (211.368); Tellers (212.368); Automatic Data-Processing Equipment Operators (213.582, 213.588, 213.782, 213.885); Bookkeeping Machine Operators (215.388, 215.488); Computing Machine Operators (216.388). Their work experience program is still to be completed.

### Fourth Period - 105 to 180 (Clock) Hours

| Occupational Training Group | | Suggested Subject Unit, by Hour | | | | | |
|---|---|---|---|---|---|---|---|
| | | 1 | 2 | 3 | 4 | 5 | 6 |
| Bookkeepers | 210.388 | PM # | | | | | |
| Cashiers | 211.138 | FS | FS | CRW | OP-II<br>\# | | |
| Tellers | 212.138 | FS | FS | CRW | OP-II<br>\# | | |
| Automatic Data-Processing Equipment Operators | 213.138 | FS | FS | DPL | OP-II<br>DPL | DT | DT |
| | 213.382 | TM | TM | TMW | TMW # | | |
| Computing and Account-Recording Occupations n.e.c. | 219.138 | FS | FS | BP | BP | PR | OP-II<br>\# |

# It should be noted that during the fourth training period, the following groups will have completed their required entry level vocational competency: Bookkeepers (210.388); Cashiers (211.138); Tellers (212.138); Automatic Data-Processing Equipment Operators (213.382); Computing and Account-Recording Occupations (219.138). Their work experience program is still to be completed.

### Fifth Period - 270 (Clock) Hours

| Occupational Training Group | | Suggested Subject Unit, by Hour | | | | | |
|---|---|---|---|---|---|---|---|
| | | 1 | 2 | 3 | 4 | 5 | 6 |
| Automatic Data-Processing Equipment Operators | 213.138 | TM | TM<br>KP | TMW | BP | CRW<br>\# | |

# It should be noted that the final training period concludes the required entry level vocational competency for Automatic Data-Processing Equipment Operators (213.138). Their work experience program is still to be completed.

Note: Learning Lab is the title given to a period of in-school time during which no specific unit is to be studied. Rather, it is a period of time for the trainee to secure additional aid from the instructor; conduct research; observe office machines in operation; or to study additional subject matter assigned by the instructor.

# ABOUT THE CURRICULA

These suggested curricula differ from those offered in most educational institutions in that major emphasis is placed upon skill and knowledge development for specific Computing and Accounting office occupations described in the 1965, third edition of the Dictionary of Occupational Titles. These curricula are based upon the recorded career objectives of each individual student and should include required realistic work experience as part of his total program.

The curricula objectives provide a framework of suggested studies qualifying trainees to hold certain jobs in Computing and Accounting office occupations. The suggested framework is sufficiently flexible to permit adaptation of the program at local levels according to community needs and availability of facilities, equipment, and teaching time.

The course of study for each of the nine office occupations has been planned to provide the specific skills and knowledges needed for employment, and to give each trainee some background in office fundamentals. Subjects for each occupational course of study are drawn from General Office Education Units. Some occupational courses of study require the trainee to study certain Specialized Office Education Units. The General Office Education Units section is comprised of those subjects common to two or more occupations. The subject content of these units will serve to orient the trainee to office work and provide certain prerequisite skills. It can also be used to refresh the trainee with information or skills previously acquired but forgotten through disuse.

Several of the General Office Education Units were included in suggested curricula previously developed by the U. S. Office of Education under the Manpower Development and Training Act of 1962, as amended. The units were reviewed and changed to fit the needs of the Computing and Accounting Office Occupations curricula outline. Suggested curricula changes reflect a desire to reduce the training time.

The Specialized Office Education Unit outlines, texts and other teaching aids are germane to the specific occupation under which they are grouped. Job descriptions and prerequisites for training and employment are shown for each occupation. To the extent possible, the subject content of the Specialized Office Education Units will permit adaptation by the teachers to suit the needs for training and employment within each community.

The subjects suggested for each occupational program were developed to correspond to job descriptions detailed in the 1965, third edition of the Dictionary of Occupational Titles. Since these job descriptions are general in nature, having been compiled from many sources in different locations, it is envisioned that programs may have to be adjusted to local conditions.

Programs are sufficiently broad to permit adaptation to changes being effected daily in data processing equipment, office techniques and terminology, and the demand for certain job skills. Each program is planned to strike a balance between general knowledge and acquisition of job skills.

The suggested curricula do not attempt to provide detailed subject units to the extent usually found in a teacher's manual. Because of such factors as trainee group knowledge, extent of review required, and individual methods of presentation, the sequence of topics in the curricula is left to the discretion of the individual teacher. Since the teacher is an individualist and may prefer his own techniques of presentation of subject matter, no attempt has been made to restrict individual effort or originality. In addition, local program administrators and teachers are encouraged to develop detailed lesson plans and obtain appropriate teaching aids. Helpful supplemental materials are to be found in the suggested texts, references, films, and other instructional materials lists.

Typing I, Business Communication and Language Skills, and Spelling and Vocabulary courses are scheduled early in the training program in order to motivate the trainee and to develop a useable foundation upon which to build subsequent courses. Typing I, Business Communication and Language Skills, and Spelling and Vocabulary provide the trainee with knowledge which he will be able to utilize in the completion of his program.

Trainees enrolled in the program are expected to have a working knowledge of English and elementary arithmetic. Several of the units allow for a review of these important basic subjects, but the need for depth of review must be assessed by the local instructor. It is imperative for the trainee to have a background of fundamental education in order to interpret instructions both verbal and written.

The Spelling and Vocabulary unit will teach the trainee communications skills needed in office work and for study purposes. The unit builds vocabulary, improves spelling, and reviews basic English grammar.

When possible, learning experiences or units should be grouped in order to simulate conditions of office work. Local availability of teachers and facilities will determine the feasibility of this method. One method of unit grouping is shown in the Curricula Synopses section.

In the skill development subjects, lectures and discussions should be kept to the minimum required for understanding procedures and operating instructions. As much time as possible should be devoted to actual trainee practice by simulating actual office conditions.

In the social business subjects, such as Business Behavior and Psychology, a variety of methods should be used. Role playing, case analysis, group discussion, lectures and motion pictures—all can be used effectively. Varied presentation can serve to heighten interest, participation, and learning. Although a special unit has not been included in the curricula for developing proper study habits, teachers and administrators should stress this area. Many booklets and pamphlets are available for helping trainees to develop these important capacities.

Periodic progress checks should be made throughout each unit to evaluate trainee progress toward meeting the Suggested Standards of Achievement. In addition, these checks serve as a guide for reviewing material that may not have been fully learned.

The teacher should consider using resources of the community for assistance with training. Guest speakers from business and industry can assist with special topics and, in addition, can help trainees relate their activities to local business needs and standards.

The greatest challenge for teachers may lie in building the morale of the trainees. Motivation and morale building should be a part of every class and practice period. It is suggested that teachers make an effort early in the program toward establishing a teaching climate which will heighten and maintain the trainee's interest. The success of the program can be judged by the number of trainees who will become gainfully employable in careers at the conclusion of their entry level vocational education.

## Administrative Options

The Curricula Synopses section shows typical programs for each of the occupations. These programs are based on six-hour days of instruction. It is recognized that variations in this scheduling may have to be made to suit local conditions and to provide an opportunity for the introduction of required courses other than specific vocational training. To facilitate administration of the programs and hold the required number of teachers and teaching hours to a minimum, subjects have been grouped to enable one teacher to handle combined groups of trainees at the same time. The number of trainees that may meet in a combined session should be compatible with good teaching practice in terms of span of control, instructional methods, and equipment availability.

The curricula for the nine office occupations have been planned to develop the abilities needed for employment. Before starting the specialized occupational units, the trainee should have skills and knowledge equivalent to that gained from those general office education units suggested as pertinent to his occupation. In order to plan an appropriate program, the trainee's previously acquired abilities and educational background should be evaluated against the Standards of Achievement listed for the required basic units. If the trainee already has acceptable skills in some areas, the instructor or administrator may delete units from the trainee's program and substitute units which would have been given at another time. In this way, subject units can be rearranged to form a more appropriate and meaningful sequence for certain trainees, and the time needed for the development of employable skills can be shortened or the quantity of training expanded by substitution of other training units in which the trainee has not been previously qualified.

For example, it may prove obvious to the instructor that a trainee has an excellent background in Spelling and Vocabulary. If the trainee's skill in this subject compares favorably with the Suggested Standards of Achievement listed for Spelling and Vocabulary, this particular course may be deleted from his program. The training period could thus be shortened for those trainees presenting this type of achievement, and the trainee could be considered employable at an earlier date. Careful screening of the trainee should disclose the nature and extent of his background. Such pertinent information should be made available to the local program administrator.

Due to this possibility of certain courses being deleted from a trainee's program, some topics have been repeated in certain units. This repetition of topics serves two purposes: to expose trainees to areas of subject content that they may have missed and, in other instances, the topic can be used for refresher purposes.

## Supervisory Training Information

In view of the requirements for the occupations in Administrative Specialization and Managers' and Officials' occupations, trainees selected for these supervisory programs should have exhibited considerable potential to the group responsible for selection. Some trainees for supervisory positions may have more education and experience than some other trainees. However, the suggested programs for these occupations outlined in the Curricula Synopses section assume little prior experience or education in the clerical field except in the computational and Language Skills areas. As in the other occupational programs, a trainee who enters with certain demonstrable skills and knowledge may have unnecessary subject units deleted from his program of study.

Supervisors, managers, and officials may become responsible for numerous office activities such as bookkeeping, typing, or filing. However, local employment opportunities should determine the trainee's specific area of concentration. Since the areas of specialty cannot be foreseen, the curricula provide a generalized office education to equip the supervisory trainee with basic skills in several areas. These skills can be augmented by on-the-job training.

## Dictionary of Occupational Titles References

In the compilation of job classifications and suggested course outlines the Dictionary of Occupational Titles, 3rd ed., 1965 was extensively, but not exclusively, used. After a specific occupational title is found in Volume I and defined, it then becomes necessary for the teacher or administrator to transfer this occupational title to an occupational division in Volume II. The D.O.T. number offers a clue to the occupational division, occupational family, and the occupational category. It should be noted that the majority of the occupational titles considered in this guide are categorized as Computing and Accounting Office Occupations, which carries a D.O.T. number from 210. through 217. The first three digits of the D.O.T. number provide the instructor with the occupational grouping of the job classifications. The second three digits (to the right of the decimal point) are important to instructors, administrators, and guidance personnel since they provide the key to the work performed, worker requirements, clues for relating applicants and requirements, training and methods of entry, and qualifications profile for a trainee or worker in each job classification.

It is strongly recommended that all personnel involved in vocational training have access to, and use extensively, the D.O.T. for the selection of trainees and for the specificity of general office education and specialized units of instruction. The following is quoted directly from the Dictionary of Occupational Titles:

## Explanation of Relationships Within Data, People, Things Hierarchies

Much of the information in the third edition of the Dictionary is based on the premise that every job requires a worker to function in relation to Data, People, and Things, in varying degrees. These relationships are identified and explained below. They appear in the form of three hierarchies arranged in each instance from the relatively simple to the complex in such a manner that each successive relationship includes those that are simpler and excludes the more complex. The identifications attached to these relationships are referred to as worker functions, and provide standard terminology for use in summarizing exactly what a worker does on the job by means of one or more meaningful verbs.

A job's relationship to Data, People, and Things can be expressed in terms of the highest appropriate function in each hierarchy to which the worker has an occupationally significant relationship, and these functions taken together indicate the total level of complexity at which he must perform. The last three digits of the occupational code numbers in the Dictionary reflect significant relationships to Data, People, and Things, respectively. These last three digits express a job's relationship to Data, People, and Things by identifying the highest appropriate function in each hierarchy to which the job requires the worker to have a significant relationship, as reflected by the following table:

| DATA (4th digit) | PEOPLE (5th digit) | THINGS (6th digit) |
|---|---|---|
| Synthesizing | 0 Mentoring | 0 Setting-Up |
| Coordinating | 1 Negotiating | 1 Precision Working |
| Analyzing | 2 Instructing | 2 Operating-Controlling |
| Compiling | 3 Supervising | 3 Driving-Operating |
| Computing | 4 Diverting | 4 Manipulating |
| Copying | 5 Persuading | 5 Tending |
| Comparing | 6 Speaking-Signaling | 6 Feeding-Offbearing |
| No significant relationship | 7 Serving | 7 Handling |
| | 8 No significant relationship | 8 No significant relationship |

DATA: Information, knowledge, and conceptions, related to data, people, or things, obtained by observation, investigation, interpretation, visualization, mental creation; incapable of being touched; written data take the form of numbers, words, symbols; other data are ideas, concepts, oral verbalization.

0 Synthesizing: Integrating analyses of data to discover facts and/or develop knowledge concepts or interpretations.

1 Coordinating: Determining time, place, and sequence of operations or action to be taken on the basis of analysis of data; executing determinations and/or reporting on events.

2 Analyzing: Examining and evaluating data. Presenting alternative actions in relation to the evaluation is frequently involved.

3 Compiling: Gathering, collating, or classifying information about data, people, or things. Reporting and/or carrying out a prescribed action in relation to the information is frequently involved.

4 Computing: Performing arithmetic operations and reporting on and/or carrying out a prescribed action in relation to them. Does not include counting.

5 Copying: Transcribing, entering, or posting data.

6 Comparing: Judging the readily observable functional, structural, or compositional characteristics (whether similar to or divergent from obvious standards) of data, people, or things.

PEOPLE: Human beings; also animals dealt with on an individual basis as if they were human.

0 Mentoring: Dealing with individuals in terms of their total personality in order to advise, counsel, and/or guide them with regard to problems that may be resolved by legal, scientific, clinical, spiritual, and/or other professional principles.

1 Negotiating: Exchanging ideas, information, and opinions with others to formulate policies and programs and/or arrive jointly at decisions, conclusions, or solutions.

2 Instructing: Teaching subject matter to others, or training others (including animals) through explanation, demonstration, and supervised practice; or making recommendations on the basis of technical disciplines.

3 Supervising: Determining or interpreting work procedures for a group of workers, assigning specific duties to them, maintaining harmonious relations among them, and promoting efficiency.

4 Diverting: Amusing others.

5 Persuading: Influencing others in favor of a product, service, or point of view.

6 Speaking-Signaling: Talking with and/or signaling people to convey or exchange information. Includes giving assignments and/or directions to helpers or assistants.

7 Serving: Attending to the needs or requests of people or animals or the expressed or implicit wishes of people. Immediate response is involved.

THINGS: Inanimate objects as distinguished from human beings; substances or materials; machines, tools, equipment; products. A thing is tangible and has shape, form, and other physical characteristics.

0 Setting-Up: Adjusting machines or equipment by replacing or altering tools, jigs, fixtures, and attachments to prepare them to perform their functions, change their performance, or restore their proper functioning if they break down. Workers who set up one or a number of machines for other workers or who set up and personally operate a variety of machines are included here.

1 Precision Working: Using body members and/or tools or work aids to work, move, guide, or place objects or materials in situations where ultimate responsibility for the attainment of standards occurs and selection of appropriate tools, objects, or materials, and the adjustment of the tool to the task require exercise of considerable judgment.

2 Operating-Controlling: Starting, stopping, controlling, and adjusting the progress of machines or equipment designed to fabricate and/or process objects or materials. Operating machines involves setting up the machine and adjusting the machine or material as the work progresses. Controlling equipment involves observing gages, dials, etc., and turning valves and other devices to control such factors as temperature, pressure, flow of liquids, speed of pumps, and reactions of materials. Set-up involves several variables and adjustment is more frequent than in tending.

3 Driving-Operating: Starting, stopping, and controlling the actions of machines or equipment for which a course must be steered, or which must be guided, in order to fabricate, process, and/or move things or people. Involves such activities as observing gages and dials; estimating distances and determining speed and direction of other objects; turning cranks and wheels; pushing clutches or brakes; and pushing or pulling gear lifts or levers. Includes such machines as cranes, conveyor systems, tractors, furnace charging machines, paving machines, and hoisting machines. Excludes manually powered machines, such as handtrucks and dollies, and power assisted machines, such as electric wheelbarrows and handtrucks.

4 Manipulating: Using body members, tools, or special devices to work, move, guide, or place objects or materials. Involves some latitude for judgment with regard to precision attained and selecting appropriate tool, object, or material, although this is readily manifest.

5 Tending: Starting, stopping, and observing the functioning of machines and equipment. Involves adjusting materials or controls of the machine, such as changing guides, adjusting timers and temperature gages, turning valves to allow flow of materials, and flipping switches in response to lights. Little judgment is involved in making these adjustments.

6 Feeding-Offbearing: Inserting, throwing, dumping, or placing materials in or removing them from machines or equipment which are automatic or tended or operated by other workers.

7 Handling: Using body members, handtools, and/or special devices to work, move, or carry objects or materials. Involves little or no latitude for judgment with regard to attainment of standards or in selecting appropriate tool, object, or material.

# GENERAL OFFICE EDUCATION UNITS

## ADDING AND CALCULATING MACHINES (AC)

### Hours Required

Class: 1 hour daily

Total: 60 hours

### Description

The objective of this unit is the development of occupational proficiency in the use of the following machines: Rotary calculator, printing calculator, 10-key adding-listing machine, and the full-keyboard adding-listing machine.

### Teaching Tips

In this unit the trainee should be taught to understand the four basic arithmetic operations as applied to calculating machines and to perform on the various machines with confidence, accuracy, and speed. Application should be made to business documents. The instructor should develop an overview of the principles, procedures, and techniques of each machine.

### Topic Outline

I. Rotary Calculators
II. Printing Calculators
III. 10-key Adding-Listing Machines
IV. Full-Keyboard Adding-Listing Machines

### TOPIC I - ROTARY CALCULATORS

A. Addition
B. Subtraction
C. Multiplication
D. Division
E. Constant multiplication
F. Decimals

### TOPIC II - PRINTING CALCULATORS

A. Addition
B. Subtraction
C. Multiplication
D. Division

### TOPIC III - 10-KEY ADDING-LISTING MACHINES

A. Addition
B. Subtraction
C. Multiplication
D. Division

### TOPIC IV - FULL-KEYBOARD ADDING-LISTING MACHINES

A. Addition
B. Subtraction
C. Multiplication
D. Division
E. Decimals and fractions

### Texts and Other Teaching Materials

From the following suggested texts and materials (or other commercially available material), select trainee and teacher materials for use in this unit. Additional references are listed in Appendix B.

Agnew, Peter L. Machine Office Practice. Cincinnati, Ohio: South-Western Publishing Co., Inc., 1959.

__________. Ten-Key Adding-Listing Machine and Printing Calculator Course. 3rd ed. Cincinnati, Ohio: South-Western Publishing Co., Inc., 1963.

______________, and Brady, Mary M. Advanced Key-Driven Calculator Course. Cincinnati, Ohio: South-Western Publishing Co., Inc., 1958.

______________, and Cornelia, Nicholas J. Office Machines Course. 3rd ed. Cincinnati, Ohio: South-Western Publishing Co., Inc., 1962.

______________, and Pasewark, William R. Full-Keyboard Adding-Listing Machine Course. 3rd ed. Cincinnati, Ohio: South-Western Publishing Co., Inc., 1963.

______________________________. Key-Driven Calculator Course. 4th ed. Cincinnati, Ohio: South-Western Publishing Co., Inc., 1962.

______________________________. Rotary Calculator Course. 4th ed. Cincinnati, Ohio: South-Western Publishing Co., Inc., 1962.

Fasnacht, Harold D., and Bauernfeind, Harry B. How to Use Business Machines. 2nd ed. New York: McGraw-Hill Book Co., Inc., 1962.

Gibson, E. Dana. Adding Machine Systems. Dubuque, Iowa: Wm. C. Brown Co., 1960.

Johnson, Mina M., and Pactor, Paul. Ten-Key Adding Machine Course. New York: Pitman Publishing Corp., 1956.

Keelon, John K. Tested Problems for Calculators and Listing Machines. Englewood Cliffs, N. J.: Prentice-Hall, Inc., 1959.

Lock, Flora M., and Dohr, Dorothy. Office Calculating and Adding Machines. 2nd ed. New York: John Wiley and Sons, Inc., 1964.

Meehan, James R. How to Use the Calculator and the Comptometer. 4th ed. New York: McGraw-Hill Book Co., Inc., 1959.

______________, and Kahn, Gilbert. How to Use Adding Machines. New York: McGraw-Hill Book Co., Inc., 1962.

Walker, Arthur L.; Roach, J. Kenneth; and Hanna, J. Marshall. How to Use Adding and Calculating Machines. 2nd ed. New York: McGraw-Hill Book Co., Inc., 1960.

## APPLIED OFFICE MATHEMATICS (OM)

### Hours Required

Class: 1 hour daily — Total: 30 hours

### Description

Basic and specialized principles of business mathematics are applied to payrolls, retailing, financing, insurance, and taxation. The work in this unit should concentrate on practical applications in several fields.

### Teaching Tips

The teacher should stress the importance of mathematics in business as it applies in all areas of financial involvement. For additional details and suggestions see U. S. Office of Education publication Electronic Business Data Processing Peripheral Equipment Occupations. Washington, D.C.: U.S. Government Printing Office, 1964, 113 pp., 70¢, Catalog No. FS5.286:86010.

### Topic Outline

I. Payrolls Preparation
II. Purchasing and Selling
III. Business Financing
IV. Insurance
V. Taxation

TOPIC I - PAYROLLS PREPARATION

A. Straight salary

B. Time payment (hourly wage system) - time cards

C. Piece work wage systems

D. Use of withholding tax tables

E. Currency memorandum

TOPIC II - PURCHASING AND SELLING

A. Trade discounts

B. Series of discounts and single equivalent rate

C. Cash discounts

D. Invoices

E. Markups and markdowns

F. Excise and retail sales taxes

G. Commissions

H. Distributions by departments

TOPIC III - BUSINESS FINANCING

A. Interest--simple and compound

B. Installment buying and selling

C. Small loan agencies

TOPIC IV - INSURANCE

A. Fire and theft - business assets

B. Automobile - business car or truck

C. Life - proprietor

TOPIC V - TAXATION

A. Real estate taxes on business property

B. Federal and state income taxes of proprietor

C. Social Security taxes for self employed and employees

## Texts and Other Teaching Materials

From the following suggested texts and materials (or other equivalent commercially available material), select trainee and teacher materials for use in this unit. Additional references are listed in Appendix B.

Hindle, John H., and Feldman, Harold. Mathematics in Business. Boston, Massachusetts: Allyn and Bacon, Inc., 1963.

Huffman, Harry. Programmed Business Mathematics, Parts I, II, and III. New York: McGraw-Hill Book Co., Inc., 1962.

Kanzer, E. M., and Schaaf, W. L. Essentials of Business Arithmetic. Boston, Massachusetts: D. C. Heath and Co., 1960.

Layton, W. I. Business Arithmetic. New York: John Wiley & Sons, Inc., 1965.

Lowenstein, L. L. Mathematics in Business. New York: John Wiley & Sons, Inc., 1958.

McMackin, F. J.; Marsh, J. A.; and Baten, C. E. Arithmetic of Better Business. Boston, Massachusetts: Ginn & Co., 1959.

McNelly, A. E.; Adams, L. J.; and Olson, Milton C. Business and Consumer Arithmetic. 5th ed. Englewood Cliffs, New Jersey: Prentice-Hall, Inc., 1964.

Piper, Edwin B., and Gruber, Joseph. Applied Business Mathematics. 8th ed. Cincinnati, Ohio: South-Western Publishing Co., Inc., 1965.

Rosenberg, R. Robert, and Lewis, Harry. Business Mathematics. 6th ed. New York: McGraw-Hill Book Co., Inc., 1963.

## BOOKKEEPING AND ACCOUNTING I (BA-I)

### Hours Required

Class: 1 hour daily

Total: 60 hours

### Description

This unit is designed to give the student a knowledge of bookkeeping fundamentals involved in the completion of a simple bookkeeping cycle.

### Teaching Tips

The instructor should introduce this unit by using a service type business as a vehicle since merchandise control is not involved. Trainees should be taught an appreciation of the importance of bookkeeping records, a broad business vocabulary, and how to keep simple bookkeeping records.

### Topic Outline

I. Importance of Financial Records
II. Fundamentals of Bookkeeping
III. Recording Transactions
IV. The Trial Balance
V. The Worksheet
VI. Financial Reports
VII. Closing the Ledger
VIII. The Complete Cycle

### TOPIC I - IMPORTANCE OF FINANCIAL RECORDS

A. Efficient management
B. Financial control
C. Government reports

### TOPIC II - FUNDAMENTALS OF BOOKKEEPING

A. Assets, liabilities, proprietorship
B. Income
C. Expenses
D. Income Statements
E. Balance Sheets

### TOPIC III - RECORDING TRANSACTIONS

A. "T" accounts
B. Journalizing
C. Posting
D. Changes in account balances

### TOPIC IV - THE TRIAL BALANCE

A. Form
B. Equalization of debits and credits
C. Purpose
D. Errors

### TOPIC V - THE WORKSHEET

A. Form
B. Use of trial balance
C. Income columns
D. Balance Sheet columns
E. Profit

### TOPIC VI - FINANCIAL REPORTS

A. Purpose and use
B. Income Statement
C. Balance Sheet

### TOPIC VII - CLOSING THE LEDGER

A. Objective
B. Income and expense summary
C. Closing entries
D. Ruling and balancing accounts

## TOPIC VIII - THE COMPLETE CYCLE

At this point it is suggested that the instructor offer the trainee a practice set or project involving the seven topics of this outline. The project should simulate the actual bookkeeping practice encountered in working in a sole proprietorship service business.

### Texts and Other Teaching Materials

From the following suggested texts and materials (or other equivalent commercially available material), select trainee and teacher materials for use in this unit. Additional references are listed in Appendix B.

Bridenbaugh, Vachel E.; Lins, Angeline G.; and Elwell, Fayette H. Bookkeeping Principles. New York: Pitman Publishing Corp., 1958.

Carlson, Paul A.; Forkner, Hamden L.; and Boynton, Lewis D. 20th Century Bookkeeping and Accounting. 22nd ed. Cincinnati, Ohio: South-Western Publishing Co., Inc., 1962.

Ellsworth, J. Phil, and Jackson, Paul R. Applied Bookkeeping. 4th ed. New York: McGraw-Hill Book Co., Inc., 1965.

Freeman, M. Herbert; Hanna, J. Marshall; and Kahn, Gilbert. Gregg Bookkeeping and Accounting. 3rd ed. New York: McGraw-Hill Book Co., Inc., 1963.

Fritz, Noble, and Hoffman, G. Bookkeeping Fundamentals. New York: McGraw-Hill Book Co., Inc., 1965.

Janis, Arthur, and Miller, Morris. Fundamentals of Modern Bookkeeping. New York: Pitman Publishing Corp., 1965.

Meigs, Walter B., and Johnson, Charles E. Accounting. The Basis for Business Decisions. New York: McGraw-Hill Book Co., Inc., 1962.

Olson, Milton; Zelliot, Ernest A.; and Leidner, Walter E. Introductory Bookkeeping. 3rd ed. Englewood Cliffs, N. J.: Prentice-Hall, Inc., 1961.

Perry, Enos C.; Frakes, John C.; and Zabornik, Joseph J. Clerical Bookkeeping. 2nd ed. New York: Pitman Publishing Corp., 1962.

Van Voorhis, J.; Palmer, A.; and Archer, Fred. College Accounting, Theory and Practice. New York: McGraw-Hill Book Co., Inc., 1963.

## BOOKKEEPING AND ACCOUNTING II (BA-II)

### Hours Required

Class: 1 hour daily

Total: 60 hours

### Description

This unit is designed as a sequel to Bookkeeping and Accounting I. In this unit the trainee applies his knowledge of the service type bookkeeping unit to keeping the records of a mercantile business.

**Teaching Tips**

The trainee should receive instruction in merchandise inventory, sales transactions, purchases transactions, adjusting entries, accruals, returns and allowances, and discounts. This unit develops an appreciation for the importance of simple bookkeeping records, additional business vocabulary, and the ability to keep simple bookkeeping records. The instructor should put theory into practice by having the students complete a practice set involving the records of a mercantile business.

**Topic Outline**

I. Review of Bookkeeping Fundamentals
II. Recording Purchases
III. Recording Sales
IV. Recording Cash Receipts
V. Recording Cash Payments
VI. The General Journal
VII. Adjusting and Closing Entries and Financial Reports
VIII. Miscellaneous Topics

### TOPIC I - REVIEW OF BOOKKEEPING FUNDAMENTALS

A. Asset, liability, proprietorship
B. "T" accounts, debit, credit
C. Worksheet
D. Reports

### TOPIC II - RECORDING PURCHASES

A. Purchases journal
B. Accounts payable
C. Controlling account
D. Returns and allowances
E. Discounts

### TOPIC III - RECORDING SALES

A. Sales journal
B. Accounts receivable
C. Controlling account
D. Returns and allowances
E. Discounts

### TOPIC IV - RECORDING CASH RECEIPTS

A. Cash receipts journal
B. Special money columns
C. Posting totals

### TOPIC V - RECORDING CASH PAYMENTS

A. Cash payments journal
B. Special money columns
C. Posting totals
D. Proof of cash

### TOPIC VI - THE GENERAL JOURNAL

A. Two column
B. Miscellaneous entries

### TOPIC VII - ADJUSTING AND CLOSING ENTRIES AND FINANCIAL REPORTS

A. Worksheet with adjustments
B. Financial reports--merchandise inventory
C. Closing entries

### TOPIC VIII - MISCELLANEOUS TOPICS (BRIEF)

A. Interest
B. Depreciation of fixed assets
C. Accrued expenses
D. Payrolls
E. Combination journal

### Texts and Other Teaching Materials

From the following suggested texts and materials (or other equivalent commercially available material), select trainee and teacher materials for use in this unit. Additional references are listed in Appendix B.

Bridenbaugh, Vachel E.; Lins, Angeline G.; and Elwell, Fayette H. Bookkeeping Principles. New York: Pitman Publishing Corp., 1958.

Carlson, Paul A.; Forkner, Hamden L.; and Boynton, Lewis D. 20th Century Bookkeeping and Accounting. 22nd ed. Cincinnati, Ohio: South-Western Publishing Co., Inc., 1962.
Working Papers; Study Guides; Practice Sets; Overhead Projector Transparencies.

Ellsworth, J. Phil, and Jackson, Paul R. Applied Bookkeeping. 4th ed. New York: McGraw-Hill Book Co., Inc., 1965.

Freeman, M. Herbert; Hanna, J. Marshall; and Kahn, Gilbert. Gregg Bookkeeping and Accounting. 3rd ed. New York: McGraw-Hill Book Co., Inc., 1963.

Fritz, Noble, and Hoffman, G. Bookkeeping Fundamentals. New York: McGraw-Hill Book Co., Inc., 1965.

Janis, Arthur, and Miller, Morris. Fundamentals of Modern Bookkeeping. New York: Pitman Publishing Corp., 1965.

Meigs, Walter B., and Johnson, Charles E. Accounting. The Basis for Business Decisions. New York: McGraw-Hill Book Co., Inc., 1962.

Olson, Milton; Zelliot, Ernest A.; and Leidner, Walter E. Introductory Bookkeeping. 3rd ed. Englewood Cliffs, N. J.: Prentice-Hall, Inc., 1961.

Pactor, Paul. Bookkeeping Machines Practice Set. New York: Pitman Publishing Corp., 1961.

Van Voorhis, J.; Palmer, A.; and Archer, Fred. College Accounting, Theory and Practice. New York: McGraw-Hill Book Co., Inc., 1963.

## BUSINESS BEHAVIOR AND PSYCHOLOGY (BBP)

### Hours Required

Class: 1 hour daily Total. 30 hours

### Description

This unit is designed to give the trainee an understanding of accepted personal and business behavior traits. The unit provides an introduction to the understanding of interpersonal relationships, personality, and efficiency in relation to other employees. It is designed to illustrate to the trainee the needed intangibles of personal conduct and personnel understanding in order to succeed in a business society.

### Teaching Tips

The teacher should emphasize the effect one's personal affairs have on his success in the office.

Topic Outline

- I. Develop Your Personality
- II. Personality and Communication
- III. Personal Affairs and Effect on Business Proficiency
- IV. Psychology and Human Relations in the Office
- V. Success on the Job
- VI. Group Association

## TOPIC I - DEVELOP YOUR PERSONALITY

- A. Self-improvement physical
  - 1. Self-analysis
  - 2. Good grooming
  - 3. Attire
  - 4. Personal health
- B. Self-improvement, emotional
  - 1. Acceptance of yourself
  - 2. Acceptance of others
  - 3. Nervous tension

## TOPIC II - PERSONALITY AND COMMUNICATION

- A. The power of words
- B. Communication with others
- C. Telephone personality
- D. Personality projection

## TOPIC III - PERSONAL AFFAIRS AND EFFECT ON BUSINESS PROFICIENCY

- A. Managing income
- B. Managing expenditures
- C. Work organization

## TOPIC IV - PSYCHOLOGY AND HUMAN RELATIONS IN THE OFFICE

- A. Human relations
  - 1. Human relations in personal situations
  - 2. Human relations in business situations
  - 3. Human relations and hostile environment
  - 4. Human relations in good working environment
  - 5. Working together
- B. Business psychology
  - 1. Business psychology in personal life
  - 2. Business psychology in the office
  - 3. Psychology--"His" and "Hers"

## TOPIC V - SUCCESS ON THE JOB

- A. Attitudes
  - 1. Attitude toward job
  - 2. Attitude toward responsibilities
  - 3. Attitude toward others
- B. Personal efficiency
  - 1. Organizing work
  - 2. Understanding personal needs
  - 3. Concentration

## TOPIC VI - GROUP ASSOCIATION

- A. Part of the team
- B. Understand others' wants
- C. Understand others' needs
- D. Your place in the group picture
- E. Your growth in relation to others

Texts and Other Teaching Materials

From the following suggested texts and materials (or other equivalent commercially available material), select trainee and teacher materials for use in this unit. Additional references are listed in Appendix B.

Agnew, Peter L., and Meehan, James R. Clerical Office Practice. 3rd ed. Cincinnati, Ohio: South-Western Publishing Co., Inc., 1961.

Agnew, Peter L.; Meehan, James R.; and Oliverio, Mary Ellen. Secretarial Office Practice. 7th ed. Cincinnati, Ohio: South-Western Publishing Co., Inc., 1966.

Becker, Esther. Success and Satisfaction in Your Office Job. New York: Harper and Bros., 1954.
Crane, George W. Psychology Applied. Chicago, Illinois: Hopkins Syndicate, Inc., 1964.
Davis, Keith. Human Relations in Business. New York: McGraw-Hill Book Co., Inc., 1957.
Duvall, Sylvanus M. Art and Skill of Getting Along With People. Englewood Cliffs, N. J.: Prentice-Hall, Inc., 1961.
Giles, Lambert L. Charting Your Job Future. Chicago, Illinois: Science Research Associates, 1957.
Hovland, Carl I. Communication and Persuasion. New Haven, Conn.: Yale University Press, 1953.
Keily, Helen J., and Walters, R. G. How to Find and Apply for a Job. 2nd ed. Cincinnati, Ohio: South-Western Publishing Co., Inc., 1960.
King, Eleanore. Guide to Glamour. Englewood Cliffs, N. J.: Prentice-Hall, Inc., 1957.
Laird, Donald A., and Laird, Eleanor C. Practical Business Psychology. 3rd ed. New York: McGraw-Hill Book Co., Inc., 1961.
Manpower, Inc. Manpower White Glove Training Manual. New York: Manpower, Inc., 1964.
Russon, Allien. Business Behavior. 3rd ed. Cincinnati, Ohio: South-Western Publishing Co., Inc., 1964.

## BUSINESS COMMUNICATION AND LANGUAGE SKILLS (BC)

### Hours Required

Class: 1 hour daily

Total: 45 hours

### Description

This unit reviews basic grammar, sentence structure, punctuation, and the use of reference materials. The emphasis is upon business usage of the language and, after the review of fundamentals, attention is given to both oral and written communications.

### Teaching Tips

The teacher should pretest to determine the trainee's basic grammar comprehension. It is suggested that attention be given to all forms of business communication and their effect on successful business operation. Trainees should be given practice in writing, speaking, and interpreting business communications and language skills using common business vocabulary. Special attention should be given to the development of the art of listening.

### Topic Outline

I. Use of the Language
II. Sentence and Paragraph Structure
III. Parts of Speech
IV. Capitalization and Punctuation
V. Use of Reference Materials
VI. Written Communications
VII. Speech Fundamentals

### TOPIC I - USE OF THE LANGUAGE

A. Importance of good communication
B. Importance of correct form
C. Common errors
D. Penmanship
E. Special business vocabularies

TOPIC II - SENTENCE AND PARAGRAPH STRUCTURE

A. Simple sentences

B. Compound and complex sentences

C. Effective sentences and paragraphs

TOPIC III - PARTS OF SPEECH

A. Nouns

B. Pronouns

C. Verbs

D. Adjectives

E. Adverbs

F. Prepositions

G. Conjunctions

TOPIC IV - CAPITALIZATION AND PUNCTUATION

A. Proper nouns

B. Special uses of capitalization

C. Punctuation

TOPIC V - USE OF REFERENCE MATERIALS

A. Dictionary

B. Thesaurus

C. Secretarial handbook

TOPIC VI - WRITTEN COMMUNICATIONS

A. Memoranda

B. Business letters

C. Reports

TOPIC VII - SPEECH FUNDAMENTALS

A. Use and control of the voice

B. Conversational speech

C. Formal speeches

D. Telephone usage

## Texts and Other Teaching Materials

From the following suggested texts and materials (or other equivalent commercially available material), select trainee and teacher materials for use in this unit. Additional references are listed in Appendix B.

Anderson, Ruth I.; Straub, Lura Lynn; and Gibson, E. Dana. Word Finder. 2nd ed. Englewood Cliffs, N. J.: Prentice-Hall, Inc., 1964.

Aurner, Robert R., and Burtness, Paul S. Effective English for Business. 5th ed. Cincinnati, Ohio: South-Western Publishing Co., Inc., 1962.

Baty, Wayne M. English for Business. Belmont, California: Wadsworth Publishing Co., Inc., 1966.

Gavin, Ruth E., and Hutchinson, E. Lillian. Reference Manual for Stenographers and Typists. New York: McGraw-Hill Book Co., Inc., 1961.

Hagar, Hubert A.; Stewart, Marie M.; and Hutchinson, E. Lillian. Business English. 3rd ed. New York: McGraw-Hill Book Co., Inc., 1953.

________________________________. Business English and Letter Writing. New York: McGraw-Hill Book Co., Inc., 1963.

Handy, Ralph S., and Clifton, Katherine. Business English In Practice. 2nd ed. New York: Pitman Publishing Corp., 1956.

Henderson, L. Business English Essentials. 3rd ed. New York: McGraw-Hill Book Co., Inc., 1965.

Johnson, H. Webster, and McFarland, Stuart W. How to Use the Business Library. Cincinnati, Ohio: South-Western Publishing Co., Inc., 1957.

Lamb, Marion M. Word Studies. 5th ed. Cincinnati, Ohio: South-Western Publishing Co., Inc., 1963.

Larsen, Lenna A., and Koebele, Apollonia M. Reference Manual for Office Employees. 4th ed. Cincinnati, Ohio: South-Western Publishing Co., Inc., 1960.

Leslie, Louis A. 20,000 Words, Spelled and Divided. 5th ed. New York: McGraw-Hill Book Co., Inc., 1965.

Mayo, Lucy G. Communications Handbook for Secretaries. New York: McGraw-Hill Book Co., Inc., 1958.

Nanassy, Louis C., and Selden, William. Business Dictionary. Englewood Cliffs, N. J.: Prentice-Hall, Inc., 1960.

Normal, Lewis. The New Roget's Thesaurus of the English Language in Dictionary Form. Garden City, New York: Garden City Books, 1961.

Parkhurst, Charles C. English for Business. 4th ed. Englewood Cliffs, N. J.: Prentice-Hall, Inc., 1963.

Schachter, Norman. English the Easy Way. 2nd ed. Cincinnati, Ohio: South-Western Publishing Co., Inc., 1961.

Silverthorn, J. E. Word Division Manual. Cincinnati, Ohio: South-Western Publishing Co., Inc., 1959.

Stewart, Marie M.; Hutchinson, E. Lillian; Lanham, Frank W.; and Zimmer, Kenneth. Business English and Communication. 2nd ed. New York: McGraw-Hill Book Co., Inc., 1961.

Tressler, J. C., and Lipman, M. C. Business English In Action. 2nd ed. Boston, Massachusetts: D. C. Heath & Co., 1957.

West, Leonard. 300 Commas. New York: McGraw-Hill Book Co., Inc., 1964.

## BUSINESS PRINCIPLES AND MANAGEMENT (BPM)

### Hours Required

Class: 1 hour daily Total: 60 hours

### Description

The functions, the economic services, the organization, and the operation of American business are emphasized.

### Teaching Tips

Principles of good management are taught through involvement of the trainee in the facilitating function of the office, the exploration of the problems of management, and implications of outside influences on the success of the business.

### Topic Outline

I. The Business Enterprise System
II. Business Organization
III. Marketing and Merchandising Operations
IV. Financial Operations
V. Personnel and Human Relations
VI. Miscellaneous Management Problems
VII. Government Influence on Business

### TOPIC I - THE BUSINESS ENTERPRISE SYSTEM

A. Bases of business in the American economy

B. Nature and extent of business enterprises

C. Opportunities in business

### TOPIC II - BUSINESS ORGANIZATION

A. Sole proprietorships and partnerships
   1. Legal structure
   2. Strengths and weaknesses

B. Corporations
   1. Legal structure
   2. Strengths and weaknesses

C. Internal Business Organization
   1. Characteristics of good organization
   2. Types of organizational structures

D. Managerial responsibilities (legal and moral)

### TOPIC III - MARKETING AND MERCHANDISING OPERATIONS

A. Role and efficiency of marketing and merchandising in the American economy

B. Distribution channels

C. Purchasing procedures

D. Price policies and procedures

E. Merchandising problems and policies

F. Selling, including advertising and sales promotion

### TOPIC IV - FINANCIAL OPERATIONS

A. Financial requirements of a business

B. Methods of financing a business

C. Financial records and their uses

D. Budgeting and financial control

E. Banking services

F. Insurance protection

G. Credit and collection policies and procedures

### TOPIC V - PERSONNEL AND HUMAN RELATIONS

A. Recruiting, selecting, training, and promoting employees

B. Compensation and benefits

C. Social security and workmen's protection

D. Labor relations and labor legislation

### TOPIC VI - MISCELLANEOUS MANAGEMENT PROBLEMS

A. Choosing a business location and determining desirable building facilities

B. Office procedures
   1. Records control
   2. Accounting

C. Shipping and transportation operations

D. Research and planning

E. Special problems in manufacturing

### TOPIC VII - GOVERNMENT INFLUENCE ON BUSINESS

A. Government regulations

B. Taxation

### Texts and Other Teaching Materials

From the following suggested texts and materials (or other equivalent commercially available material), select trainee and teacher materials for use in this unit. Additional references are listed in Appendix B.

Fritz, Noble. Introductory Business Practice. New York: McGraw-Hill Book Co., Inc., 1966.
Hurley, Morris L. Business Administration. 2nd ed. Englewood Cliffs, N. J.: Prentice-Hall, Inc., 1960.
Keith, Lyman A., and Gubellini, Carlo E. Business Management. New York: McGraw-Hill Book Co., Inc., 1958.
__________. Introduction to Business Enterprise. New York: McGraw-Hill Book Co., Inc., 1958.

Lasser, J. K. *How to Run a Small Business. 3rd ed.* New York: McGraw-Hill Book Co., Inc., 1963.

McNaughton, Wayne L. *Introduction to Business Enterprise.* New York: John Wiley & Sons, Inc., 1965.

Price, Ray G.; Musselman, Vernon A.; Hall, J. Curtis; and Weeks, Edwin E., Jr. *General Business For Everyday Living. 3rd ed.* New York: McGraw-Hill Book Co., Inc., 1966.

Robinson, Edwin M. *Business Organization and Practice. 2nd ed.* New York: McGraw-Hill Book Co., Inc., 1953.

Shilt, Bernard A., and Wilson, W. Harmon. *Business Principles and Management. 4th ed.* Cincinnati, Ohio: South-Western Publishing Co., Inc., 1961.

Tonne, Herbert A.; Simon, Sidney I.; and McGill, Esby C. *Business Principles, Organization, and Management. 2nd ed.* New York: McGraw-Hill Book Co., Inc., 1963.

## CORRESPONDENCE AND REPORT WRITING (CRW)

### Hours Required

Class: 1 hour daily　　Total: 30 hours

### Description

This unit presents the elements for the composition and the construction of written business communications. It includes memoranda, letters, and formal reports.

### Teaching Tips

Attention should be given to the fundamentals and the psychology involved in preparing office documents in written communications and to the protocol of sending or presenting such communications both internally and outside of the business.

### Topic Outline

I. Need for Good Written Communication
II. Considerations of Written Communications
III. Letters and Memoranda
IV. Internal Communications
V. External Communications
VI. Formal Written Reports
VII. Psychology of Written Communications

### TOPIC I - NEED FOR GOOD WRITTEN COMMUNICATION

A. Importance of written records

B. Keeping people informed

C. Permanent record

### TOPIC II - CONSIDERATIONS OF WRITTEN COMMUNICATIONS

A. Planning

B. Clear and concise

C. Consider the reader

D. Proper etiquette

### TOPIC III - LETTERS AND MEMORANDA

A. Informal memoranda

B. Formal memoranda

C. Forms and styles of business letters

D. Formal reports

### TOPIC IV - INTERNAL COMMUNICATIONS

A. Proper etiquette

B. Forms and styles

C. Organization and planning

D. Writing the communication

### TOPIC V - EXTERNAL COMMUNICATIONS

A. Types of business letters

B. Forms and styles

C. Organizing and planning

D. Writing the letter

### TOPIC VI - FORMAL WRITTEN REPORTS

A. Types

B. Organizing materials

C. Research

D. Rough drafts

E. Method of presenting data

F. Summary, conclusions, or recommendations

G. Documentation

### TOPIC VII - PSYCHOLOGY OF WRITTEN COMMUNICATIONS

A. Put yourself in the reader's place

B. Say what you mean

C. Avoid trite expressions

D. Carbon copy to appropriate people

E. Value and danger of written communications

### Texts and Other Teaching Materials

From the following suggested texts and materials (or other equivalent commercially available material), select trainee and teacher materials for use in this unit. Additional references are listed in Appendix B.

Anderson, Chester R.; Saunders, Alta G.; and Weeks, Francis W. Business Reports. 3rd ed. New York: McGraw-Hill Book Co., Inc., 1957.

Ault, Nelson A., and Magill, Lewis M. Business Letters. San Francisco: Chandler Publishing Co., 1956.

Aurner, Robert R., and Burtness, Paul S. Effective English for Business. 5th ed. Cincinnati, Ohio: South-Western Publishing Co., Inc., 1962.

Handy, Ralph. Business Correspondence in Practice. 3rd ed. New York: Pitman Publishing Corp., 1962.

Himstreet, William C.; Porter, L. J.; and Maxwell, G. W. Business English in Communications. Englewood Cliffs, N. J.: Prentice-Hall, Inc., 1964.

Keithey, Erwin M. A Manual of Style for the Preparation of Papers and Reports. Cincinnati, Ohio: South-Western Publishing Co., Inc., 1959.

Lamb, Marion M. Word Studies. 5th ed. Cincinnati, Ohio: South-Western Publishing Co., Inc., 1963.

Leggett, Glenn H., and others. Handbook for Writers. 3rd ed. Englewood Cliffs, N. J.: Prentice-Hall, Inc., 1960.

Mayo, Lucy G. Communications Handbook for Secretaries. New York: McGraw-Hill Book Co., Inc., 1958.

Menning, J. H., and Wilkinson, C. W. Communication Through Letters and Reports. Homewood, Illinois: Richard D. Irwin, Inc., 1963.

Reid, James M., and Wendlinger, Robert M. Effective Letters--A Program for Self-Instruction. New York: McGraw-Hill Book Co., Inc., 1964.

Schutte, William M., and Steinberg, Erwin R. Communication in Business and Industry. New York: Holt, Rinehart, & Winston, Inc., 1960.

Schwartz, M. M. How to Write Successful Business Letters. New York: Grosset & Dunlap, Inc., 1962.

Stewart, Marie M.; Hutchinson, E. Lillian; Lanham, Frank W.; and Zimmer, Kenneth. Business English and Communication. 2nd ed. New York: McGraw-Hill Book Co., Inc., 1961.

## DATA TYPING (DT)

### Hours Required

Class: 1 hour daily; Laboratory: 1 hour daily Total: 60 hours

### Description

This unit is designed to instruct the trainee in the basic principles of data processing and to develop a knowledge of, and ability to use, input media for data processing equipment.

### Teaching Tips

The basic function of a data typist is to convert information into input media for automated data processing equipment. Data typists prepare punched cards, punched paper tape, and magnetic tape from source documents. Because of the many different types of equipment in use, the specific function of data typists may vary considerably from one installation to another. A high degree of accuracy in typing and proofreading is required for this job. Data typists may be expected to enter data media into the various systems and, therefore, need a good overview of the data processing function, with depth training on the specific equipment which they will actually use on their specific job. An ability to type 35 to 40 net words a minute should be a prerequisite for the unit.

### Topic Outline

I. The Data Processing Cycle
II. Use of Punched Cards
III. Use of Magnetic Tapes
IV. Handling Magnetic Tapes
V. Use of Punched Paper Tapes
VI. Use of Data Processing Library
VII. Copying from Source Documents
VIII. Types of Equipment and Systems

### TOPIC I - THE DATA PROCESSING CYCLE

A. Data conversion
B. Input
C. Processing
D. Storage
E. Output

### TOPIC II - USE OF PUNCHED CARDS

A. Format
B. Field
C. Codes
D. Types of usage
E. Handling cards

### TOPIC III - USE OF MAGNETIC TAPES

A. Construction
B. Tape storage system
C. Types of usage

### TOPIC IV - HANDLING MAGNETIC TAPES

A. Temperature and humidity control
B. Cleaning and testing
C. Packing and shipping
D. Identification

### TOPIC V - USE OF PUNCHED PAPER TAPES

A. Machines which create punched paper tape
B. Care and handling of punched paper tape
C. Types of usage

### TOPIC VI - USE OF DATA PROCESSING LIBRARY

A. Types of materials stored in library
B. Checking materials in and out
C. Care of materials

### TOPIC VII - COPYING FROM SOURCE DOCUMENTS

A. Need for accuracy

B. Understanding the assignment

C. Following written and oral instructions

D. Techniques of copying from source documents

### TOPIC VIII - TYPES OF EQUIPMENT AND SYSTEMS

A. Card to tape converter

B. Flexowriter

C. Punched paper tape as by-product
   1. Accounting machines
   2. Cash registers

D. Punched cards

E. Computer prepared tapes

F. Keyed data-recorder (magnetic tape)

### Texts and Other Teaching Materials

From the following suggested texts and materials (or other equivalent commercially available material), select trainee and teacher materials for use in this unit. Additional references are listed in Appendix B.

Care and Handling of Magnetic Tape. IBM Corporation, Item No. 520-1715.
Introduction to IBM Data Processing Systems. IBM Corporation, Item No. F22-6517.
Kahn, Gilbert. Business Data Processing. New York: McGraw-Hill Book Co., Inc., 1966.
1101 Keyed Data-Recorder Reference Manual. Mohawk Data Sciences Corporation, Harter Street, Herkimer, New York.
Testing and Care of IBM Cards. IBM Corporation, Item No. 520-1598.
Wanous, S. J., and Wanous, E. E. Automation Office Practice. Cincinnati: South-Western Publishing Co., Inc., 1964.

## FILING AND FILING SYSTEMS (FS)

### Hours Required

Class: 1 hour daily — Total: 60 hours

### Description

This unit provides the trainee with intensive training in basic filing principles and in the techniques of records control. After completing this unit the trainee should have no difficulty in understanding and using any filing system.

### Teaching Tips

Alphabetic indexing is not treated as a separate topic since it is assumed that the trainee will have had alphabetic indexing as a prerequisite. It is suggested that the teacher conduct realistic visitations to businesses to show several different filing systems in operation.

Topic Outline

- I. Purpose of Filing and Records Control
- II. Alphabetic Correspondence Filing
- III. Other Filing Methods
- IV. Records Management
- V. Application

## TOPIC I - PURPOSE OF FILING AND RECORDS CONTROL

- A. Reasons for storing records
- B. Need for retrieval and reference
- C. Scope of filing

## TOPIC II-ALPHABETIC CORRESPONDENCE FILING

- A. Organization
  - 1. Arrangement of guides and folders
  - 2. Positions of folders
  - 3. Expansion
- B. Procedures
  - 1. Routine receipt processing
  - 2. Key titles
  - 3. Coding
  - 4. Cross referencing
  - 5. Sorting
- C. Controls
  - 1. Requisition
  - 2. Charge out
  - 3. Recovery
- D. Types of alphabetic systems

## TOPIC III - OTHER FILING METHODS

- A. Numeric
- B. Alpha-numeric
- C. Geographic
- D. Subject
- E. Alpha-numeric subject

## TOPIC IV - RECORDS MANAGEMENT

- A. Transfer and storage
  - 1. Equipment
  - 2. Methods
  - 3. Records retention policies
  - 4. Protection
  - 5. Disposing of records
- B. Establishing a filing system
- C. Nature of card systems
- D. Vertical files
- E. Visible systems
- F. Power systems
- G. Data processing and microfilming
  - 1. Punched-card systems
  - 2. Integrated data processing systems
  - 3. Electronic data processing systems
  - 4. Microfilm retrieval

## TOPIC V - APPLICATION

At this point it is suggested that the instructor have the trainees work, under supervision, on an information retrieval project. Time may be taken during this part of the unit to visit several local firms in order to see various filing systems in operation.

Texts and Other Teaching Materials

From the following suggested texts and materials (or other equivalent commercially available material), select trainee and teacher materials for use in this unit. Additional references are listed in Appendix B.

Agnew, Peter L., and Meehan, James R. Clerical Office Practice. 3rd ed. Cincinnati, Ohio: South-Western Publishing Co., Inc., 1961.

Bassett, Ernest D., and others. Business Filing and Records Control. 3rd ed. Cincinnati, Ohio: South-Western Publishing Co., Inc., 1964.

Griffin, Mary C. Records Management. Boston, Massachusetts: Allyn and Bacon, 1964.
Guthrie, M. R. Alphabetic Indexing. 3rd ed. Cincinnati, Ohio: South-Western Publishing Co., Inc., 1964.
Kahn, Gilbert, and others. Progressive Filing and Gregg Quick-Filing Practice. 7th ed. New York: McGraw-Hill Book Co., Inc., 1962.
Muniz, Alfredo, and de Gorbea, Josefina Q. Sistemas y Metodos de Archivar. Cincinnàti, Ohio: South-Western Publishing Co., Inc., 1952.
Selden, William H., and others. Filing and Finding. Englewood Cliffs, N. J.: Prentice-Hall, Inc., 1962.
Weeks, Bertha. Filing and Records Management. 3rd ed. rev. New York: The Ronald Press Co., 1964.

### Practice Materials

Bassett, Ernest D., and others. Filing Office Practice. 3rd ed. Cincinnati, Ohio: South-Western Publishing Co., Inc., 1964.
Fahrner, William F., and Gibbs, William E. Basic Rules for Alphabetic Filing, Programmed. Cincinnati, Ohio: South-Western Publishing Co., Inc., 1965.
Filing Practice Set. Baltimore, Maryland: H. M. Rowe Co., 1964.
Filing Practice Workbook. 2nd ed. New York: Pitman Publishing Corp., 1958.
Guthrie, M. R. Alphabetic Indexing. 3rd ed. Cincinnati, Ohio: South-Western Publishing Co., Inc., 1964.
Indexing and Filing Workbook. Baltimore, Maryland: H. M. Rowe Co., 1964.
Kahn, Gilbert, and others. Practice Materials for Progressive Filing. 7th ed. New York: McGraw-Hill Book Co., Inc., 1961.
Practica de Archivar para Oficinas. Cincinnati, Ohio: South-Western Publishing Co., Inc., 1964.
Principles of Indexing and Filing. 4th ed. Baltimore, Maryland: H. M. Rowe Co., 1964.

## INDEXING (I)

### Hours Required

Class: 1 hour daily — Total: 15 hours

### Description

This unit is designed to aid the general trainee to develop an understanding of, and an appreciation for, the need for keeping orderly records. A thorough working knowledge of the rules and principles of alphabetic indexing is given to the trainee.

### Teaching Tips

Although the emphasis in this unit should be placed on alphabetic indexing and retrieval, some discussion and practice should be given to geographic and numeric indexing systems. The trainee must be instructed in the necessity for accuracy and attention to detail. Practice should be given at frequent intervals to develop manual dexterity, to provide positive instruction in alphabetic indexing, and to illustrate methods of retrieval. This unit should be a required prerequisite for Filing and Filing Systems.

## Topic Outline

- I. Why Maintain Files?
- II. Nature and Scope of Alphabetic Indexing
- III. Basic Rules for Alphabetic Indexing
- IV. Filing Materials and Retrieval
- V. Types of Alphabetic Indexing Systems

### TOPIC I - WHY MAINTAIN FILES?

- A. Purpose of keeping information
- B. Future uses of information
- C. Need to retrieve previous information
- D. Qualifications for filing position

### TOPIC II - NATURE AND SCOPE OF ALPHABETIC INDEXING

- A. Knowledge of alphabetic sequences
- B. Knowledge of abbreviations
- C. How a filing system is organized
- D. Alphabetic card filing
  1. Card file
  2. Card guide
  3. Organization of card file
  4. Variations in systems

### TOPIC III - BASIC RULES FOR ALPHABETIC INDEXING

- A. Terms and indexing vocabulary
  1. Indexing
  2. Indexing unit
  3. Coding
  4. Filing order
  5. Natural order
  6. Alphabetic filing order
  7. Names
- B. Rules for indexing
  1. Names of individuals
  2. Titles and degrees
  3. Abbreviations
  4. Business names
  5. Numbers in business names
  6. Possessives
  7. Compound names and words
  8. Unusual and foreign names
  9. Cross references
  10. Deviations from basic rules
  11. Governmental units
  12. Other names and addresses

### TOPIC IV - FILING MATERIALS AND RETRIEVAL

- A. Geographic location indexing
- B. Use of numeric indexing files
- C. Cross referencing
- D. Techniques of information retrieval

### TOPIC V - TYPES OF ALPHABETIC INDEXING SYSTEMS

- A. Use of practice materials
- B. Field trips to local businesses

At this point the trainee should be well enough versed in indexing to be able to appreciate the techniques of alphabetic filing used in business. It is suggested that several field trips be made to observe the application of principles discussed in the classroom.

## Texts and Other Teaching Materials

From the following suggested texts and materials (or other equivalent commercially available material), select trainee and teacher materials for use in this unit. Additional references are listed in Appendix B.

Agnew, Peter L., and Meehan, James R. Clerical Office Practice. 3rd ed. Cincinnati, Ohio: South-Western Publishing Co., Inc., 1961.

Bassett, Ernest D., and others. Business Filing and Records Control. 3rd ed. Cincinnati, Ohio: South-Western Publishing Co., Inc., 1964.

Griffin, Mary C. *Records Management.* Boston, Massachusetts: Allyn and Bacon, 1964.

Kahn, Gilbert, and others. *Gregg Quick Filing Practice.* New York: McGraw-Hill Book Co., Inc., 1965.

_________, and others. *Progressive Filing and Gregg Quick Filing Practice. 7th ed.* New York: McGraw-Hill Book Co., Inc., 1962.

Muniz, Alfredo, and de Gorbea, Josefina Q. *Sistemas y Metodos de Archivar.* Cincinnati, Ohio: South-Western Publishing Co., Inc., 1952.

Selden, William H., and others. *Filing and Finding.* Englewood Cliffs, N. J.: Prentice-Hall, Inc., 1962.

Weeks, Bertha. *Filing and Records Management. 3rd ed. rev.* New York: The Ronald Press Co., 1964.

### Practice Materials

Bassett, Ernest D., and others. *Filing Office Practice. 3rd ed.* Cincinnati, Ohio: South-Western Publishing Co., Inc., 1964.

Fahrner, William F., and Gibbs, William E. *Basic Rules for Alphabetic Filing, Programmed.* Cincinnati, Ohio: South-Western Publishing Co., Inc., 1965.

*Filing Practice Set.* Baltimore, Maryland: H. M. Rowe Co., 1964.

*Filing Practice Workbook. 2nd ed.* New York: Pitman Publishing Corp., 1958.

Guthrie, M. R. *Alphabetic Indexing. 3rd ed.* Cincinnati, Ohio: South-Western Publishing Co., Inc., 1964.

*Indexing and Filing Workbook.* Baltimore, Maryland: H. M. Rowe Co., 1964.

Kahn, Gilbert, and others. *Practice Materials for Progressive Filing. 7th ed.* New York: McGraw-Hill Book Co., Inc., 1961.

*Practica de Archivar para Oficinas.* Cincinnati, Ohio: South-Western Publishing Co., Inc., 1964.

*Principles of Indexing and Filing. 4th ed.* Baltimore, Maryland: H. M. Rowe Co., 1964.

## INTRODUCTION TO OFFICE SERVICES (IO)

### Hours Required

Class: 1 hour daily — Total: 60 hours

### Description

The principal objectives of this unit are to give the student an understanding of the nature of business and the many services performed by the large variety of businesses.

### Teaching Tips

This unit should be basic in the preparation of trainees expecting to enter the field of office occupations. The teacher should keep in mind that all topics should be taught as they apply to office operation rather than for personal application.

### Topic Outline

I. Financial and Banking Services
II. Sharing Business Risks (Insurance)
III. Modern Communication Services
IV. Transportation Services
V. Sources of Business Information
VI. Our Business and Economic World

TOPIC I - FINANCIAL AND BANKING SERVICES

- A. Importance of money
- B. Services of banks
- C. Checking accounts
  - 1. Opening an account
  - 2. Writing checks
  - 3. Handling checks
- D. Counterfeit money

TOPIC II - SHARING BUSINESS RISKS (INSURANCE)

- A. Automobile insurance (business vehicles)
- B. Fire insurance (business assets)
- C. Life insurance (proprietor)
- D. Other types of insurance
- E. Pensions and social security

TOPIC III - MODERN COMMUNICATION SERVICES

- A. Telephone services
- B. Telegraph services
- C. Communication by letter, including postal services

TOPIC IV - TRANSPORTATION SERVICES

- A. Freight
  - 1. Railroad
  - 2. Trucks
  - 3. Ships
  - 4. Airplanes
  - 5. Pipe lines
- B. Express
- C. Mail

TOPIC V - SOURCES OF BUSINESS INFORMATION

- A. Directories - city, telephone, government, special, etc.
- B. Almanacs
- C. Dictionary
- D. Postal guides
- E. Statistical reference books

TOPIC VI - OUR BUSINESS AND ECONOMIC WORLD

- A. Business organization
- B. Government regulation of business
- C. Government taxation

Texts and Other Teaching Materials

From the following suggested texts and materials (or other equivalent commercially available material), select trainee and teacher materials for use in this unit. Additional references are listed in Appendix B.

Aberle, John W.; Sielaff, Theodore J.; and Mayer, Forrest L. General Business for Today and Tomorrow. Englewood Cliffs, N.J.: Prentice-Hall, Inc., 1959.

Business Practice Set. 5th ed. Cincinnati, Ohio: South-Western Publishing Co., Inc., 1963.

Crabbe, Ernest H.; DeBrum, S. Joseph; and Haines, Peter. General Business. 9th ed. Cincinnati, Ohio: South-Western Publishing Co., Inc., 1966.

Fancher, Charles, and Gallagher, J. Francis. Business Fundamentals for Everyone. 2nd ed. Englewood Cliffs, N.J.: Prentice-Hall, Inc., 1958.

Fritz, Noble. Introductory Business Practice. New York: McGraw-Hill Book Co., Inc., 1966.

Polishook, William M. Today's General Business. Boston, Massachusetts: Ginn & Co., 1959.

Price, Ray G.; Musselman, Vernon A.; Hall, J. Curtis; and Weeks, Edwin E., Jr. General Business for Everyday Living. 3rd ed. New York: McGraw-Hill Book Co., Inc., 1966.

Reed, Clinton A.; Conover, Hobart H.; and Stearns, Robert E. Introduction to Business. Boston, Massachusetts: Allyn and Bacon, Inc., 1963.

Roman, John C., and Finch, Robert. Family Financial Management Set. Cincinnati, Ohio: South-Western Publishing Co., Inc., 1964.

Scott, Wesley E.; Kane, Fred; Kirk, John G.; and Buckley, Harold B. Everyday Consumer Business. Englewood Cliffs, N.J.: Prentice-Hall, Inc., 1959.

## KEY-PUNCH OPERATION (KP)

### Hours Required

Class: 1 hour daily — Total: 30 hours

### Description

This course is designed to prepare the student for job entry level skill as a key-punch operator. A minimum of 7500 correct strokes per hour should be attained.

### Teaching Tips

Emphasis should be placed on familiarization with the full range of key-punch department equipment and skilled use of the IBM 024, 026, 029, and 056 machines. An introduction to the various other units of equipment in a modern tabulating department should also be presented. A prerequisite for this unit should be a typewriting ability of 35 to 40 words a minute and satisfactory completion of the IBM Card Punch Operator Aptitude Test. For additional details the instructor should read U.S.O.E. publication number OE86010.

### Topic Outline

I. Orientation
II. The Tab Card
III. Machine Features
IV. Skill Development
V. Special Machine Features
VI. Production Practice
VII. Verifier Procedures
VIII. The Tab Department

TOPIC I - ORIENTATION

A. Importance of key-punch department
B. Need for accuracy
C. Card handling

TOPIC II - THE TAB CARD

A. Format
B. Code
C. Field

TOPIC III - MACHINE FEATURES

A. 024 Key punch
B. 026 Printing key punch
C. 029 Printing key punch
D. 056 Verifier

TOPIC IV - SKILL DEVELOPMENT

A. Alphabetic punching
B. Numeric punching

TOPIC V - SPECIAL MACHINE FEATURES

A. Alternate Programming
B. Program card preparation

TOPIC VI - PRODUCTION PRACTICE

A. Alpha-numeric drill
B. Payroll
C. Inventory
D. Sales analysis
E. Punching computer programs

TOPIC VII - VERIFIER PROCEDURES

A. Need for verifying
B. Machine features
C. Verifier drill

TOPIC VIII - THE TAB DEPARTMENT

A. Introduction to use of other equipment
B. Demonstration of the IBM 082, 085, 402, 403, 407, 514, and 548 in operation

## Texts and Other Teaching Materials

From the following suggested texts and materials (or other equivalent commercially available material), select trainee and teacher materials for use in this unit. Additional references are listed in Appendix B.

Bux, William E. Key-Punch Training Course. Cincinnati, Ohio: South-Western Publishing Co., Inc., 1966.
Salmon, Lawrence J. IBM Machine Operation and Wiring. Belmont, California: Wadsworth Publishing Co., Inc., 1962.
Wanous, S. J., and Wanous, E. E. Automation Office Practice Set. Cincinnati, Ohio: South-Western Publishing Co., Inc., 1964.
IBM Corporation. A Teacher's Guide to Card Punch Training on the IBM Selectric Typewriter.
__________. Card Punch Exam. Item No. R25-1348-1.
__________. Card Punch Operator Aptitude Test. Item No. 120-6351-5.
__________. Card Punch Practice Exercises. Item No. R25-1627-0.
__________. Card Punching and Verifying Machines—Principles of Operation. Item No. 224-3176.
__________. Machine Functions. Item No. 224-8208-4.
__________. Punched Card Data Processing Principles. Item Nos. 320-1444 through 320-1449.
__________. Reference Manual IBM 024 Card Punch: 026 Printing Card Punch. Item No. A24-0520-1.
__________. Reference Manual IBM 056 Card Verifier. Item No. A24-1018-0.

## OFFICE PRACTICE I - GENERAL (OP-I)

### Hours Required

Class: 1 hour daily — Total: 60 hours

### Description

This unit of instruction is designed to equip trainees with an overview of clerical office routines necessary to the successful operation of a business. It will aid the trainee in mastering certain office duties and routines that have not been included in other basic courses, such as handling the mail, reception work, stock records, business forms, and others.

### Teaching Tips

The teacher should concentrate on providing the trainee with refresher training of once learned understandings and skills which have been partially lost and to provide the trainee with an integration of the old and the new office understandings and skills by means of realistic, simulated office assignments. One of the major objectives of a course in general office practice is to bridge the gap between the classroom and the office. The instructor should invite experienced office workers into the class to discuss their duties, responsibilities, and the general nature of their work. Practical experience should be offered the trainee either through the simulated office in the classroom or cooperative or directed work experience on the job.

Topic Outline

- I. Office Work as a Career
- II. Review of Basic Clerical Skills
- III. Preparing Business Forms
- IV. Mail and Messenger Service
- V. Office Communications
- VI. Stock Records
- VII. Office Machines and Typewriting Production

## TOPIC I - OFFICE WORK AS A CAREER

- A. Place in office
    - 1. Variety of jobs
    - 2. Rewards
    - 3. Promotion possibilities
- B. Personal traits
    - 1. Good grooming
    - 2. Getting along with others
    - 3. Efficiency

## TOPIC II - REVIEW OF BASIC CLERICAL SKILLS

- A. Handwriting, spelling, vocabulary
- B. Arithmetic calculations
- C. Typewriting
- D. English usage

## TOPIC III - PREPARING BUSINESS FORMS

- A. Purchases
    - 1. Requisition
    - 2. Order
    - 3. Invoice
- B. Sales
    - 1. Slip
    - 2. Invoice
    - 3. Billing
    - 4. Data
- C. Statements

## TOPIC IV - MAIL AND MESSENGER SERVICE

- A. Incoming mail
    - 1. Opening, dating, sorting
    - 2. Routing
- B. Outgoing mail
    - 1. Folding and inserting
    - 2. Postage
    - 3. Classes of mail
    - 4. Mailing lists
- C. Messenger service

## TOPIC V - OFFICE COMMUNICATIONS

- A. Interoffice communications
    - 1. Manual
    - 2. Mechanical
- B. Telegrams, cablegrams, radiograms
- C. Telephone
    - 1. Telephone personality
    - 2. Messages
    - 3. Outgoing calls
    - 4. Incoming calls
    - 5. Use of directory
    - 6. Types of telephones
- D. Switchboards

## TOPIC VI - STOCK RECORDS

- A. Receiving
- B. Stockkeeping
    - 1. Requisitions
    - 2. Inventory
- C. Shipping
    - 1. Methods
    - 2. Marking
    - 3. Terms
    - 4. Bill of lading

## TOPIC VII - OFFICE MACHINES AND TYPEWRITING PRODUCTION

- A. Office calculators
- B. Duplicating processes
- C. Typing from handwritten copy, number typing, form fill-ins, etc.
- D. Typewriting production problems
- E. Cash register operation

## Texts and Other Teaching Materials

From the following suggested texts and materials (or other equivalent commercially available materials), select trainee and teacher materials for use in this unit. Additional references are listed in Appendix B.

Agnew, Peter L. Machine Office Practice. Cincinnati, Ohio: South-Western Publishing Co., Inc., 1959.

————————, and Cornelia, Nicholas J. Office Machines Course. 3rd ed. Cincinnati, Ohio: South-Western Publishing Co., Inc., 1962.

————————, and Meehan, James R. Clerical Office Practice. 3rd ed. Cincinnati, Ohio: South-Western Publishing Co., Inc., 1961.

Archer, Fred C.; Brecker, Raymond C.; and Frakes, John C. General Office Practice. 2nd ed. New York: McGraw-Hill Book Co., Inc., 1963.

Bassett, Ernest D.; Agnew, Peter L.; and Goodman, David G. Business Filing and Records Control. 3rd ed. Cincinnati, Ohio: South-Western Publishing Co., Inc., 1964.

Briggs, Milton. Mathematics Skill Builder. 2nd ed. Cincinnati, Ohio: South-Western Publishing Co., Inc., 1960.

Fahrner, William F., and Gibbs, William E. Basic Rules of Alphabetic Filing, Programmed. Cincinnati, Ohio: South-Western Publishing Co., Inc., 1965.

Fasnacht, Harold D., and Bauernfeind, Harry B. How to Use Business Machines. 2nd ed. New York: McGraw-Hill Book Co., Inc., 1962.

Fisher, Robert. Intensive Clerical and Civil Service Training. 3rd ed. Cincinnati, Ohio: South-Western Publishing Co., Inc., 1959.

Friedman, Sherwood, and Grossman, Jack. Applied Clerical Practice. 2nd ed. New York: Pitman Publishing Corp., 1962.

————————————————. Modern Clerical Practice. 2nd ed. New York: Pitman Publishing Corp., 1959.

Goodfellow, Raymond C., and Rosenberg, Henry J. Projects in Clerical Practice. 2nd ed. Cincinnati, Ohio: South-Western Publishing Co., Inc., 1957.

Guthrie, Mearl R. Alphabetic Indexing. 3rd ed. Cincinnati, Ohio: South-Western Publishing Co., Inc., 1964.

Hadley, R., and Thistlewaite, R. Payroll Recordkeeping. 5th ed. New York: McGraw-Hill Book Co., Inc., 1965.

Johnson, H. Webster. How to Use the Business Library. Cincinnati, Ohio: South-Western Publishing Co., Inc., 1964.

Johnson, Mina M., and Pactor, Paul. Ten-Key Adding Machine Course. New York: Pitman Publishing Corp., 1956.

Kahn, Gilbert; Yerian, Theodore; and Stewart, Jeffrey R. Progressive Filing. 7th ed. New York: McGraw-Hill Book Co., Inc., 1961.

Keily, Helen J., and Walters, R. G. How to Find and Apply for a Job. 2nd ed. Cincinnati, Ohio: South-Western Publishing Co., Inc., 1960.

Kirk, John G.; Scott, Wesley E.; and Lune, Jacques A. Office Machine Practice. 6th ed. Baltimore, Maryland: H. M. Rowe Co., 1961.

Kramer, Edward. How to Punctuate a Business Letter. New York: Pitman Publishing Corp., 1960.

Lamb, Marion M. Word Studies. 5th ed. Cincinnati, Ohio: South-Western Publishing Co., Inc., 1963.

Larsen, L. A., and Koebele, A. M. Reference Manual for Office Employees. 4th ed. Cincinnati, Ohio: South-Western Publishing Co., Inc., 1959.

Lyon, L. H. Applied Penmanship. 2nd ed. Cincinnati, Ohio: South-Western Publishing Co., Inc., 1960.

McCullough, Robert J. Bank Reconciliation Projects. New York: Pitman Publishing Corp., 1959.

Meehan, James, and Kahn, Gilbert. How to Use Adding Machines. New York: McGraw-Hill Book Co., Inc., 1962.

Nanassy, Louis C. Standard Payroll Project. New York: Pitman Publishing Corp., 1963.

________, and Selden, William. Business Dictionary. Englewood Cliffs, N. J.: Prentice-Hall, Inc., 1960.

Pactor, Paul. Business Machines Projects. New York: Pitman Publishing Corp., 1960.

________, and Johnson, Mina. Pitman Office Machine Series. New York: Pitman Publishing Corp., 1961.

Pendery, John A. Clerical Payroll Procedures. 4th ed. Cincinnati, Ohio: South-Western Publishing Co., Inc., 1962.

________. Record Keeping for Small Businesses. 3rd ed. Cincinnati, Ohio: South-Western Publishing Co., Inc., 1959.

________, and Keeling, B. Lewis. Payroll Records and Accounting. Cincinnati, Ohio: South-Western Publishing Co., Inc., 1966.

Principles of Indexing and Filing. 4th ed. Baltimore, Maryland: H. M. Rowe Co., 1964.

Russon, Allien R. Business Behavior. 3rd ed. Cincinnati, Ohio: South-Western Publishing Co., Inc., 1964.

Schachter, Norman. English the Easy Way. 2nd ed. Cincinnati, Ohio: South-Western Publishing Co., Inc., 1961.

Selden, William; Straub, Lura Lyn; and Porter, Leonard J. Filing and Finding. Englewood Cliffs, N. J.: Prentice-Hall, Inc., 1962.

Walker, Arthur L. How to Use Adding and Calculating Machines. 2nd ed. New York: McGraw-Hill Book Co., Inc., 1960.

Wanous, S. J., and Wanous, Edward E. Basic Typewriting Drills. 3rd ed. Cincinnati, Ohio: South-Western Publishing Co., Inc., 1958.

## OFFICE PRACTICE II - GENERAL (OP-II)

### Hours Required

Class: 1 hour daily Total: 75 hours

### Description

This unit is designed to offer a deeper insight into office problems than outlined in Office Practice I - General. It is designed for the office worker who must have a general knowledge of all office procedures.

### Teaching Tips

This unit will equip the trainee with additional information about higher level office problems above those in the lower level general office positions. It should be assumed that the trainee will have completed the first unit in office practice, or its equivalent, before being admitted to this class.

It is suggested in this unit that the instructor make several field trips to offices with the trainees in order for them to become aware of basic principles being taught in this unit. Much work should be done in the form of office simulation or cooperative or directed work experience. The teacher should note that the topic on Filing should be omitted for those trainees who have had Filing and Filing Systems. This is also true for trainees who have had Duplicating and Reproducing Machines.

### Topic Outline

I. Office Reception
II. Visual Reproduction
III. Typewriting Letters and Business Papers
IV. Data Processing
V. Financial Records
VI. Filing
VII. Occupational Information

TOPIC I - OFFICE RECEPTION

A. Receptionist's function and responsibilities

B. Personal qualities

C. Meeting people

TOPIC II - VISUAL REPRODUCTION

A. Photocopying

B. Fluid duplicating

C. Stencil duplicating

D. Offset duplicating

E. Electronic facsimile copying

F. Other duplicating processes

TOPIC III - TYPEWRITING LETTERS AND BUSINESS PAPERS

A. Letter placement and style

B. Composing business letters

C. Typing from handwritten notes, number typing, form fill-ins, etc.

D. Typing from voice machines

E. Rough drafts and manuscripts

F. Business reports

TOPIC IV - DATA PROCESSING

A. Business arithmetic
  1. Fundamentals
  2. Percentages and discounts

B. Calculating machines

C. Systems
  1. Punched cards
  2. Tape
  3. I.D.P.
  4. E.D.P.

TOPIC V - FINANCIAL RECORDS

A. Banking services

B. Cash
  1. Cash receipts
  2. Cash payments
  3. Petty cash

C. Payroll
  1. Time cards
  2. Records
  3. Deductions

D. Credit
  1. Installment sales
  2. Collection

TOPIC VI - FILING

Note: Optional topic for trainees in filing and related occupations and typing and related occupations

A. Records management

B. Alphabetic filing

C. Correspondence filing

D. Card and visible filing

E. Numeric, subject, geographic filing

F. Special filing systems and punched cards

G. Charge, follow-up, transfer, storage

TOPIC VII - OCCUPATIONAL INFORMATION

A. Seeking a job

B. Data sheet and application

C. Interview

Texts and Other Teaching Materials

From the following suggested texts and materials (or other equivalent commercially available materials), select trainee and teacher materials for use in this unit. Additional references are listed in Appendix B.

Agnew, Peter L. Machine Office Practice. Cincinnati, Ohio: South-Western Publishing Co., Inc., 1959.

____________. Typewriting Office Practice. 3rd ed. Cincinnati, Ohio: South-Western Publishing Co., Inc., 1960.

____________, and Cornelia, Nicholas J. Office Machines Course. 3rd ed. Cincinnati, Ohio: South-Western Publishing Co., Inc., 1962.

____________, and Meehan, James R. Clerical Office Practice. 3rd ed. Cincinnati, Ohio: South-Western Publishing Co., Inc., 1961.

Archer, Fred C.; Brecker, Raymond C.; and Frakes, John C. General Office Practice. 2nd ed. New York: McGraw-Hill Book Co., Inc., 1963.

Baron, Harold, and Steinfeld, Solomon G. Clerical Record Keeping. 2nd ed. Cincinnati, Ohio: South-Western Publishing Co., Inc., 1965.

Bassett, Ernest D.; Agnew, Peter L.; and Goodman, David G. Business Filing and Records Control. 3rd ed. Cincinnati, Ohio: South-Western Publishing Co., Inc., 1964.

Briggs, Milton. Mathematics Skill Builder. 2nd ed. Cincinnati, Ohio: South-Western Publishing Co., Inc., 1960.

Fahrner, William F., and Gibbs, William E. Basic Rules of Alphabetic Filing, Programmed. Cincinnati, Ohio: South-Western Publishing Co., Inc., 1965.

Fasnacht, Harold D., and Bauernfeind, Harry B. How to Use Business Machines. 2nd ed. New York: McGraw-Hill Book Co., Inc., 1962.

Filing Practices Workbook. New York: Pitman Publishing Corp., 1958.

Fisher, Robert. Intensive Clerical and Civil Service Training. 3rd ed. Cincinnati, Ohio: South-Western Publishing Co., Inc., 1959.

Friedman, Sherwood, and Grossman, Jack. Applied Clerical Practice. 2nd ed. New York: Pitman Publishing Corp., 1962.

————————. Modern Clerical Practice. 2nd ed. New York: Pitman Publishing Corp., 1959.

Goodfellow, Raymond C., and Rosenberg, Henry J. Projects in Clerical Practice. 2nd ed. Cincinnati, Ohio: South-Western Publishing Co., Inc., 1957.

Guthrie, Mearl R. Alphabetic Indexing. 3rd ed. Cincinnati, Ohio: South-Western Publishing Co., Inc., 1964.

Hadley, R., and Thistlewaite, R. Payroll Recordkeeping. 5th ed. New York: McGraw-Hill Book Co., Inc., 1965.

Huffman, Harry; Mulherne, Donald; and Russon, Allien. Office Procedures and Administration—College Course. New York: McGraw-Hill Book Co., Inc., 1965.

Johnson, H. Webster. How to Use the Business Library. Cincinnati, Ohio: South-Western Publishing Co., Inc., 1964.

Johnson, Mina M., and Pactor, Paul. Ten-Key Adding Machine Course. New York: Pitman Publishing Corp., 1956.

Kahn, Gilbert; Yerian, Theodore; and Stewart, Jeffrey R. Progressive Filing. 7th ed. New York: McGraw-Hill Book Co., Inc., 1961.

Keily, Helen J., and Walters, R. G. How to Find and Apply for a Job. 2nd ed. Cincinnati, Ohio: South-Western Publishing Co., Inc., 1960.

Kirk, John G.; Scott, Wesley E.; and Lune, Jacques A. Office Machine Practice. 6th ed. Baltimore, Maryland: H. M. Rowe Co., 1961.

Kramer, Edward. How to Punctuate a Business Letter. New York: Pitman Publishing Corp., 1960.

Lamb, Marion M. Word Studies. 5th ed. Cincinnati, Ohio: South-Western Publishing Co., Inc., 1963.

Larsen, L. A., and Koebele, A. M. Reference Manual for Office Employees. 4th ed. Cincinnati, Ohio: South-Western Publishing Co., Inc., 1959.

Lyon, L. H. Applied Penmanship. 2nd ed. Cincinnati, Ohio: South-Western Publishing Co., Inc., 1959.

McCullough, Robert J. Bank Reconciliation Projects. New York: Pitman Publishing Corp., 1959.

Meehan, James, and Kahn, Gilbert. How to Use Adding Machines. New York: McGraw-Hill Book Co., Inc., 1962.

Nanassy, Louis C. Standard Payroll Project. New York: Pitman Publishing Corp., 1963.

————————, and Selden, William. Business Dictionary. Englewood Cliffs, N. J.: Prentice-Hall, Inc., 1960.

Pactor, Paul. Business Machines Projects. New York: Pitman Publishing Corp., 1960.

————, and Johnson, Mina. Pitman Office Machine Series. New York: Pitman Publishing Corp., 1961.

Pendery, John A. Clerical Payroll Procedures. 4th ed. Cincinnati, Ohio: South-Western Publishing Co., Inc., 1962.

____________. Record Keeping for Small Businesses. 3rd ed. Cincinnati, Ohio: South-Western Publishing Co., Inc., 1959.

____________, and Keeling, B. Lewis. Payroll Records and Accounting. Cincinnati, Ohio: South-Western Publishing Co., Inc., 1966.

Principles of Indexing and Filing. 4th ed. Baltimore, Maryland: H. M. Rowe Co.

Russon, Allien R. Business Behavior. 3rd ed. Cincinnati, Ohio: South-Western Publishing Co., Inc., 1964.

Sandry, Esther. Typewriting Office Practice Set. New York: Pitman Publishing Corp., 1961.

Sass, Esther. Advanced Typing Projects. New York: Pitman Publishing Corp., 1961.

Schachter, Norman. English the Easy Way. 2nd ed. Cincinnati, Ohio: South-Western Publishing Co., Inc., 1961.

Selden, William; Straub, Lura Lyn; and Porter, Leonard J. Filing and Finding. Englewood Cliffs, N. J.: Prentice-Hall, Inc., 1962.

Walker, Arthur L. How to Use Adding and Calculating Machines. 2nd ed. New York: McGraw-Hill Book Co., Inc., 1960.

Wanous, S. J., and Wanous, Edward E. Basic Typewriting Drills. 3rd ed. Cincinnati, Ohio: South-Western Publishing Co., Inc., 1958.

## PAYROLL RECORDS (PR)

### Hours Required

Class: 1 hour daily

Total: 30 hours

### Description

This unit will prepare the trainee to handle the preparation of payroll records and the necessary government reports.

### Teaching Tips

It is impossible to have in the classroom all varieties of visual reproduction equipment. However, it is suggested that the teacher engage the services of representatives, whose machines are not in the classroom, to visit the class and give a demonstration of their equipment. The teacher should point out that some businesses contract with a service bureau to handle their payroll records. Topic V, Accounting Records, should be offered only to those trainees who have completed the Bookkeeping and Accounting I course or its equivalent.

### Topic Outline

I. Payroll Records
II. Payroll Legislation
III. Preparation of Payrolls
IV. Payroll Reports
V. Accounting Records
VI. Modern Payroll Equipment

### TOPIC I - PAYROLL RECORDS

A. Payroll register

B. Employee's earning record

C. Time (clock) card

D. Tax tables - federal, state, and local

### TOPIC II - PAYROLL LEGISLATION

A. Federal

B. State

C. Local

### TOPIC III - PREPARATION OF PAYROLLS

A. Salaried employees

B. Hourly-rated employees

C. Withholdings
   1. F.I.C.A.
   2. Employee's income taxes
   3. Miscellaneous (union dues, savings, etc.)

D. Unemployment insurance

E. Payroll checks and wage receipts

### TOPIC IV - PAYROLL REPORTS

A. To employees of taxes withheld

B. To proper government agencies

### TOPIC V - ACCOUNTING RECORDS

A. Payroll journal

B. Voucher register

C. Check register

D. General journal

### TOPIC VI - MODERN PAYROLL EQUIPMENT

A. Adding and calculating machines

B. Payroll accounting machines

C. Pegboard

D. Keysort

E. Automatic data processing equipment

F. Electronic data processing equipment

## Texts and Other Teaching Materials

From the following suggested texts and materials (or other equivalent commercially available material), select trainee and teacher materials for use in this unit. Additional references are listed in Appendix B.

Felter, Emma. Payroll Accounting. 5th ed. New York: McGraw-Hill Book Co., Inc., 1962.
Hadly Editorial Staff and Thistlewaite, Robert L. Payroll Recordkeeping. 6th ed. New York: McGraw-Hill Book Co., Inc., 1965.
Huffman, Harry. Programmed Business Mathematics, Part II. New York: McGraw-Hill Book Co., Inc., 1962.
Nanassy, Louis C. Standard Payroll Project. 2nd ed. New York: Pitman Publishing Corp., 1962.
Pendery, John A. Clerical Payroll Procedures. 4th ed. Cincinnati, Ohio: South-Western Publishing Co., Inc., 1962.

## POSTING MACHINE OPERATION (PM)

### Hours Required

Class: 1 hour daily Total: 30 hours

### Description

This unit is designed to prepare students to operate posting machines efficiently in both accounts receivable and accounts payable.

### Teaching Tips

This should be a "hands on" unit and where possible the instructor should use actual source documents from local businesses.

### Topic Outline

I. Adding Machine Practice
II. Understanding of Source Documents
III. Handling Source Documents
IV. Posting Machine Operation

### TOPIC I - ADDING MACHINE PRACTICE

It is desirable that the student have had previously the basic training in the use of full-keyboard and ten-key adding machines. Then only refresher training needs to be given in this course. The posting machine can be used for this training.

### TOPIC II - UNDERSTANDING OF SOURCE DOCUMENTS

A. Accounts payable
  1. Purchase invoices and credit items
  2. Vouchers payable and debit items

B. Accounts receivable
  1. Sales invoices and debit items
  2. Checks and credit items

C. Payroll procedures

### TOPIC III - HANDLING SOURCE DOCUMENTS

A. Sorting

B. Auditing

C. Preparing totals for control purposes

### TOPIC IV - POSTING MACHINE OPERATION

A. Principal parts of the machine and their functions

B. Posting procedures
  1. Inserting journal, statement, and ledger
  2. Setting program bars
  3. Clearing totals before posting
  4. Posting charges or credits
  5. Clearing totals after posting
  6. Posting charges and credits simultaneously
  7. Error correction procedures

### Texts and Other Teaching Materials

From the following suggested texts and materials (or other equivalent commercially available material), select trainee and teacher materials for use in this unit. Additional references are listed in Appendix B.

An Introduction to Data Processing. New York: McBee Corp., 1966.
Burroughs Manual for Burroughs Bookkeeping Machines. Detroit, Michigan: Burroughs Corp.
Machine Accounting for Accounts Receivable. Orange, N. J.: Monroe Calculating Machine Co.
Monroe Bookkeeping Machine Course. Orange, N. J.: Monroe Calculating Machine Co.
NCR Bookkeeping Machine Manual. Dayton, Ohio: National Cash Register Co.
Pendery, John A. Clerical Payroll Procedures. 4th ed. Cincinnati, Ohio: South-Western Publishing Co., Inc., 1962.

## PRINCIPLES OF DATA PROCESSING (PDP)

### Hours Required

Class: 1 hour daily Total: 60 hours

### Description

This unit provides a foundation for people who will be working in data processing related positions. The history of the development of record systems, our present dependence upon them, basic card installations, and complex computer installations are covered.

### Teaching Tips

Because of the broad coverage, this unit has value to management trainees as well as trainees who will be working in some narrow functional position within a data processing installation. For additional details the teacher should read the U.S.O.E. publication number OE86010.

### Topic Outline

I. Development of Record Systems
II. Importance of Automated Data Processing
III. Basic Uses of Data Processing
IV. Data Handling
V. Electro-Mechanical Systems
VI. Computer Systems
VII. The Data Processing Department

### TOPIC I - DEVELOPMENT OF RECORD SYSTEMS

A. Ancient systems

B. Development of manual systems--1500 to 1900

C. Mechanical systems

D. Growth of electro-mechanical and computerized systems

E. Future needs

### TOPIC II - IMPORTANCE OF AUTOMATED DATA PROCESSING

A. Expanding population

B. Complex society

C. Uses in decision making

### TOPIC III - BASIC USES OF DATA PROCESSING

A. Business

B. Government

C. Military

D. Scientific

## TOPIC IV - DATA HANDLING

A. Collection

B. Conversion

C. Input media

D. Processing

E. Storage

F. Output

G. Uses of output data

## TOPIC V - ELECTRO-MECHANICAL SYSTEMS

A. Development of the Unit Record Card

B. Key Punch

C. Verifier

D. Sorter

E. Reproducer

F. Collator

G. Interpreter

H. Tabulator

I. Calculator

J. Types of applications

K. Integrated system

## TOPIC VI - COMPUTER SYSTEMS

A. Computer types
  1. Digital
  2. Analog

B. A computer configuration
  1. Input equipment
  2. Processing
  3. Storage systems
  4. Output

C. Computer language

D. Computer flow charting
  1. General
  2. Detail

E. Programming

F. Computer capability

G. Applications

## TOPIC VII - THE DATA PROCESSING DEPARTMENT

A. Equipment

B. People

C. Problems

D. Functions

## Texts and Other Teaching Materials

From the following suggested texts and materials (or other equivalent commercially available material), select trainee and teacher materials for use in this unit. Additional references are listed in Appendix B.

Carlson, Paul A.; Forkner, Hamden L.; and Boynton, Lewis D. 20th Century Bookkeeping and Accounting. 22nd ed. Cincinnati, Ohio: South-Western Publishing Co., Inc., (Appendix A), 1963.

Chapin, Ned. An Introduction to Automatic Computers. Princeton, N. J.: Van Nostrand Company, 1963.

IBM Corporation. An Introduction to IBM Punched Card Data Processing. Item No. F20-0074.

______________. Basic Data Processing Course. Item No. R22-0005-0.

______________. Introduction to IBM Data Processing Systems. Item No. F22-6517-1, 1963.

______________. Knowledge for Decision Making Punched Card Data Processing. Item No. 250-0010-0.

______________. Machine Functions. Item No. 224-8208-4.

______________. Punched Card Data Processing Principles. Item No. 320-1433 through 320-1449, 1960.

Kahn, Gilbert. Business Data Processing. New York: McGraw-Hill Book Co., 1966.

Laurie, Edward J. Computers and Computer Languages. 2nd ed. Cincinnati, Ohio: South-Western Publishing Co., Inc., 1966.

Oakfort, Robert V. Introduction to Electronic Data Processing Equipment. New York: McGraw-Hill Book Co., 1962.

Robichand, Beryl. Understanding Modern Business Data Processing. New York: McGraw-Hill Book Co., 1966.

Salmon, Lawrence. IBM Machine Operation and Wiring. Belmont, California: Wadsworth Publishing Co., Inc., 1962.

Van Ness, Robert G. Principles of Punched Card Data Processing. Elmhurst, Illinois: Business Press, Inc., 1965.

Wanous, S. J., and Wanous, E. E. Automation Office Practice. Cincinnati, Ohio: South-Western Publishing Co., Inc., 1964.

## PRINCIPLES OF MATHEMATICS (MA)

### Hours Required

Class: 1 hour daily — Total: 30 hours

### Description

This unit emphasizes the four fundamental operations as applied to office situations. The remaining three topics provide mathematical applications to specialized areas of business.

### Teaching Tips

A large variety of exercises should be provided to improve number-handling skills. Accuracy should be stressed. The teacher should use this unit as an introduction to Applied Office Mathematics.

### Topic Outline

I. Addition Skills
II. Subtraction Skills
III. Multiplication Skills
IV. Division Skills
V. Fractions
VI. Percentage
VII. Miscellaneous Skill Applications

### TOPIC I - ADDITION SKILLS

A. Improving skills
  1. Whole numbers--vertical additions
  2. Increasing speed
  3. Checking accuracy

B. Other types of addition
  1. Horizontal
  2. Horizontal-vertical

C. Addition of decimals

### TOPIC II - SUBTRACTION SKILLS

A. Improving skills
  1. Subtracting whole numbers
  2. Checking accuracy

B. Horizontal subtraction

C. Decimals

D. Bank reconciliation

### TOPIC III - MULTIPLICATION SKILLS

A. Multiplying whole numbers and checking accuracy

B. Multiplying decimals

C. Shortcuts in multiplication

D. Computations in billing

### TOPIC IV - DIVISION SKILLS

A. Division of whole numbers and checking accuracy

B. Division of decimals

C. Shortcuts in division

D. Computing averages

### TOPIC V - FRACTIONS

A. Improving skills in using common fractions and mixed numbers (addition, subtraction, multiplication, and division)

B. Using fractions as aliquot parts

### TOPIC VI - PERCENTAGE

A. Decimal numbers and fractions as percentage values

B. The percentage formulas

C. Computing percents of increases and decreases

### TOPIC VII - MISCELLANEOUS SKILL APPLICATIONS

A. Public utility cost computations

B. Linear, area, cubic, and scale computations

C. Binary system of numbers (brief treatment)

D. Bank reconciliation

### Texts and Other Teaching Materials

From the following suggested texts and materials (or other equivalent commercially available material), select trainee and teacher materials for use in this unit. Additional references are listed in Appendix B.

Hindle, John H., and Feldman, Harold. Mathematics in Business. Boston, Massachusetts: Allyn and Bacon, Inc., 1963.

Huffman, Harry. Programmed Business Mathematics, Parts I, II, and III. New York: McGraw-Hill Book Co., Inc., 1962.

Kanzer, E. M., and Schaaf, W. L. Essentials of Business Arithmetic. Boston, Massachusetts: D. C. Heath and Co., 1960.

Layton, W. I. Business Arithmetic. New York: John Wiley & Sons, Inc., 1965.

Lowenstein, L. L. Mathematics in Business. New York: John Wiley & Sons, Inc., 1958.

McMackin, F. J.; Marsh, J. A.; and Baten, C. E. Arithmetic of Better Business. Boston: Ginn & Co., 1959.

McNelly, A. E.; Adams, L. J.; and Olson, Milton C. Business and Consumer Arithmetic. 5th ed. Englewood Cliffs, New Jersey: Prentice-Hall, Inc., 1964.

Piper, Edwin B., and Gruber, Joseph. Applied Business Mathematics. 8th ed. Cincinnati, Ohio: South-Western Publishing Co., Inc., 1965.

Rosenberg, R. Robert, and Lewis, Harry. Business Mathematics. 6th ed. New York: McGraw-Hill Book Co., Inc., 1963.

## RECORD KEEPING (RK)

**Hours Required**

Class: 1 hour daily Total: 60 hours

**Description**

This unit is designed for trainees other than bookkeeping students who will need to record financial transactions in connection with their work as office employees. This unit is designed to teach the trainee how to keep simple records rather than those of the bookkeeping level.

**Teaching Tips**

The teacher should not become technical in this unit by the introduction of bookkeeping and accounting terminology. Near the end of the unit simulated record keeping practices should be introduced.

**Topic Outline**

I. Purpose of Records
II. Cashier's Records
III. Records of Transactions with Banks
IV. Petty Cash Records
V. Purchase Records
VI. Sales Records
VII. Payroll Records
VIII. Ledgers (Brief Treatment)
IX. Financial Reports (Brief Treatment)

### TOPIC I - PURPOSE OF RECORDS

A. Need for records

B. Characteristics of records
  1. Legibility
  2. Well arranged

### TOPIC II - CASHIER'S RECORDS

A. Recording receipts of cash

B. Proof of cash

C. Daily report

D. Cash receipts journal

### TOPIC III - RECORDS OF TRANSACTIONS WITH BANKS

A. Deposits

B. Writing checks and keeping the checkbook stub record

C. Cash payments journal

D. Reconciliation of bank statements

### TOPIC IV - PETTY CASH RECORDS

A. Vouchers

B. Petty cash book

C. Safeguards of cash

### TOPIC V - PURCHASE RECORDS

A. Stock record cards

B. Purchase requisitions

C. Purchase orders

D. Purchase invoices

E. Purchase journal

### TOPIC VI - SALES RECORDS

A. Sales slips and invoices

B. Sales taxes

C. Charge accounts

D. Sales returns

E. Monthly statements

F. Customers' accounts

### TOPIC VII - PAYROLL RECORDS

A. The time card

B. Overtime

C. Social Security taxes

D. Withholding taxes

E. Withholding tax tables and forms

F. Other deductions

G. Computation of wages

H. Payroll book

I. Currency breakup and currency memorandum forms

TOPIC VIII - LEDGERS (BRIEF TREATMENT)

A. Accounts receivable ledger

B. Accounts payable ledger

C. General ledger

TOPIC IX - FINANCIAL REPORTS (BRIEF TREATMENT)

A. Income (Profit and Loss) statement

B. Balance Sheet

Texts and Other Teaching Materials

From the following suggested texts and materials (or other equivalent commercially available material), select trainee and teacher materials for use in this unit. Additional references are listed in Appendix B.

Baron, Harold, and Steinfeld, Solomon C. Clerical Record Keeping. 2nd ed. Cincinnati, Ohio: South-Western Publishing Co., Inc., 1965.
Heiges, P. Myers; Schneider, Arnold E.; Huffman, Harry; and Stewart, Jeffrey R., Jr. General Record Keeping. 5th ed. New York: McGraw-Hill Book Co., Inc., 1960.
Perry, Enos C.; Frakes, John C.; and Zabornik, Joseph J. Clerical Record Keeping. New York: Pitman Publishing Corp., 1957.

## SKILL TYPING (ST)

Hours Required

Class: 1 hour daily — Total: 60 hours

Description

This unit provides further skill development integrated with production typewriting of correspondence, tabulated material, business papers, and report material.

Teaching Tips

Attention is focused on problem-solving skills including the development of skills in following directions, and use of good judgment when detailed instructions are omitted. Opportunity should be provided for students to use actual business forms and papers from offices in the business community.

Topic Outline

I. Reconstruction of Basic Skills and Techniques
II. Increasing Production Typewriting Power
III. Skill Development in Tabular Arrangement of Copy
IV. Typewriting Business Correspondence
V. Typewriting Outlines, Rough Drafts, and Manuscripts
VI. Typewriting Business Forms

### TOPIC I - RECONSTRUCTION OF BASIC SKILLS AND TECHNIQUES

A. Keyboard review

B. Operative parts

C. Tabulator mechanism

D. Centering techniques

E. Corrective measures

### TOPIC II - INCREASING PRODUCTION TYPEWRITING POWER

A. Proper utilization of time and work area

B. Building sustained speed to produce usable copy

C. Developing accurate typewriting habits—correctness of typing, grammatical construction, verification of content

### TOPIC III - SKILL DEVELOPMENT IN TABULAR ARRANGEMENT OF COPY

A. Horizontal and vertical placement

B. Production of statistical tables

C. Financial statements with decimal tabulation

D. Unarranged tables

E. Tabulated material within correspondence

### TOPIC IV - TYPEWRITING BUSINESS CORRESPONDENCE

A. Letter styles and memoranda, including special lines, multiple copies, multiple pages, and special notations

B. Arrangement on off-size stationery and for various size envelopes

C. Telegrams, news releases, and special announcements

D. Simple rough draft material

E. Chain feeding of envelopes

### TOPIC V - TYPEWRITING OUTLINES, ROUGH DRAFTS, AND MANUSCRIPTS

A. Outlines stressing parallel construction, format, and spacing and punctuation

B. Rough drafts utilizing penwritten themes, corrected typewritten copies, use of proofreading marks, and symbols

C. Manuscripts containing bulletins, news releases, one-page articles, two-page articles, technical reports, and quoted material

### TOPIC VI - TYPEWRITING BUSINESS FORMS

A. Requisition

B. Purchase order

C. Purchase invoice

D. Statement of account

E. Shipping order

F. Bill of lading

G. Financial statements—Balance Sheet, Income Statement, and others

## Texts and Other Teaching Materials

From the following suggested texts and materials (or other equivalent commercially available material), select trainee and teacher materials for use in this unit. Additional references are listed in Appendix B.

Altholz, Gertrude. Modern Typewriting Practice. 3rd ed. New York: Pitman Publishing Corp., 1962.

Baty, Wayne M. Business Communication and Typewriting. Belmont, California: Wadsworth Publishing Co., Inc., 1962.

Bell, Mary L. Speed Typing. 3rd ed. Cincinnati, Ohio: South-Western Publishing Co., Inc., 1958.

Bowman, W. B. Business Letter Typing. Cincinnati, Ohio: South-Western Publishing Co., Inc., 1957.

Connelly, Mary, and Porter, Leonard J. Typing Speed Builders. Englewood Cliffs, N. J.: Prentice-Hall, Inc., 1962.

Fries, Albert C. Timed Writings About Careers. Cincinnati, Ohio: South-Western Publishing Co., Inc., 1963.

__________, and Nanassy, Louis C. Business Timed Writings. Englewood Cliffs, N. J.: Prentice-Hall, Inc., 1960.

Grubbs, Robert L., and White, James L. Sustained Timed Writings. 2nd ed. New York: McGraw-Hill Book Co., Inc., 1963.

Holland, Kathryn. Applied Business Typewriting. Baltimore, Maryland: H. M. Rowe Co., 1964.

Hossfield, George L., and Nelson, Julius. Faster Typing. Baltimore, Maryland: H. M. Rowe Co., 1958.

Leslie, Louis A., and Pepe, Philip S. Typing Simplified—Advanced Course. New York: American Book Co., 1952.

__________. Typing Simplified—Two Year Course. New York: American Book Co., 1960.

Lessenberry, D. D.; Crawford, T. James; and Erickson, Lawrence W. 20th Century Typewriting-Complete Course. 9th ed. Cincinnati, Ohio: South-Western Publishing Co., Inc., 1967.

Liguori, Frank E. Basic Typewriting Operations. Cincinnati, Ohio: South-Western Publishing Co., Inc., 1965.

Lloyd, Alan C.; Rowe, John L.; and Winger, Fred E. Typing Power Drills. New York: McGraw-Hill Book Co., Inc., 1965.

__________. Typing Skill Drives. New York: McGraw-Hill Book Co., 1960.

MacClain, Lenore Fenton, and Dame, J. Frank. Typewriting Techniques and Short Cuts. 3rd ed. Cincinnati, Ohio: South-Western Publishing Co., Inc., 1961.

Mount, Dick, and Hansen, Kenneth J. Progressive Typewriting Speed Practice. 2nd ed. New York: McGraw-Hill Book Co., Inc., 1961.

Oliverio, Mary Ellen, and Palmer, Harold O. Graded Time Writings. Englewood Cliffs, N. J.: Prentice-Hall, Inc., 1959.

Reed, Conover, Prowell. Comprehensive Typewriting. Boston, Massachusetts: Allyn and Bacon, 1964.

Reigner, Charles G., and Rygiel, Walter S. Rowe Typing. 4th ed. Baltimore, Maryland: H. M. Rowe Co., 1958.

Rowe, John L., and Etier, Faborn. Typewriting Drills for Speed and Accuracy. 3rd ed. New York: McGraw-Hill Book Co., Inc., 1966.

__________; Lloyd, Alan C.; and Winger, Fred E. Gregg Typing—191 Series, Book One. New York: McGraw-Hill Book Co., Inc., 1967.

Thompson, James M. 101 Typewriting Timed Writings. 2nd ed. Cincinnati, Ohio: South-Western Publishing Co., Inc., 1961.

Tidwell, M. Fred, and Stuart, Esta Ross. Tidwell-Stuart Typing—One Year Course. Englewood Cliffs, N. J.: Prentice-Hall, Inc., 1964.

Wanous, S. J. Statistical Typing. 2nd ed. Cincinnati, Ohio: South-Western Publishing Co., Inc., 1956.

__________, and Wanous, E. E. Basic Typewriting Drills. 3rd ed. Cincinnati, Ohio: South-Western Publishing Co., Inc., 1958.

Winger, Fred E.; Rowe, John L.; and Lloyd, Alan C. Gregg Typing I. Gregg Adult Education Series. New York: McGraw-Hill Book Co., Inc., 1965.

## SPELLING AND VOCABULARY (SV)

Hours Required

Class: 1 hour daily

Total: 30 hours

## Description

This unit develops in the trainee an ability to spell and to develop a business vocabulary.

## Teaching Tips

Teachers expect written assignments free from spelling errors. In offices, businessmen demand error-free typewritten letters. Students should develop a spelling consciousness through a systematic method of instruction in typewriting classes as well as other classes. Correctness in spelling and the development of a functional business vocabulary is paramount as a personal need, a social asset, a vocational aid, and a significant requirement for acquiring and holding a business position. The trainee must develop a consciousness of correct spelling and automatic spelling responses.

Teachers should evaluate the progress of the trainees through their daily efforts, correspondence mailability, composition skills, reading comprehension, and oral communication. Testing devices should include: pre-tests, contextual practice, construction of spelling lists, and programmed materials.

It is not necessary for all trainees to become familiar with all specialized word lists--only those which have a definite bearing on the occupation for which each individual is being trained.

## Topic Outline

I. Importance of Spelling Skills and Vocabulary in Communications
II. Use of Common Writing Vocabulary Tools
III. Spelling Aids and Their Applications
IV. Words Related to Specific Occupations

### TOPIC I - IMPORTANCE OF SPELLING SKILLS AND VOCABULARY IN COMMUNICATIONS

A. Common misunderstanding

B. Errors resulting from poor spelling and vocabulary

### TOPIC II - USE OF COMMON WRITING VOCABULARY TOOLS

A. Use of dictionary

B. Guide to pronunciation

C. How to use common word lists

### TOPIC III - SPELLING AIDS AND THEIR APPLICATIONS

A. Word structure
   1. Letter combinations and syllables
   2. Prefixes and suffixes
   3. Compound words
   4. Formation of plurals
   5. Possessives
   6. Hyphenated words

B. Special words
   1. Homonyms
   2. Foreign words and expressions
   3. Names of cities, states, and territories
   4. Abbreviations

### TOPIC IV - WORDS RELATED TO SPECIFIC OCCUPATIONS

A. Business and economics

B. Occupations

C. Education

D. Government and military

E. Research

F. Technical and scientific

G. Computers and data processing

H. Health and medicare

I. Legal

J. Other human interests

## Texts and Other Teaching Materials

From the following suggested texts and materials (or other equivalent commercially available material), select trainee and teacher materials for use in this unit. Additional references are listed in Appendix B.

AMS Spelling Program. Willow Grove, Pa.: Administrative Management Society, Revised annually.

Brendel, LeRoy, and Near, Doris. Spelling Drills and Exercises--Programmed for the Typewriter. New York: McGraw-Hill Book Co., Inc., 1964.

Carey, Clarence B. Business Speller and Vocabulary Builder. New York: Pitman Publishing Corp., 1956.

Correct Spelling. 2nd ed. Baltimore, Maryland: Rowe Publishing Co., 1960.

Craig, Bitha, and Leslie, Louis A. Spelling at Your Typewriter. 3rd ed. New York: McGraw-Hill Book Co., Inc., 1954.

Crank, Doris; Crank, Floyd; and Connelly, Mary. Words--Spelling, Pronunciation, Definition and Application. 5th ed. New York: McGraw-Hill Book Co., Inc., 1962.

Eldridge, Edward Henry, and others. Business Speller and Vocabulary Builder. New York: American Book Co., 1955.

Hardwick, H. C. Words Are Important. Maplewood, N. J.: C. S. Hammond and Co., 1957.

Hawley, G. G. Technical Speller. New York: Reinhold Publishing Corp., 1955.

Horn, Ernest. Teaching Spelling. Washington, D. C.: National Education Assn., 1954.

Lamb, Marion M. Word Studies. 5th ed. Cincinnati, Ohio: South-Western Publishing Co., Inc., 1963.

Larsen, Lenna A., and Koebele, Apollonia M. Reference Manual for Office Employees. 4th ed. Cincinnati, Ohio: South-Western Publishing Co., Inc., 1959.

Leslie, Louis A. 20,000 Words, Spelled and Divided. 5th ed. New York: McGraw-Hill Book Co., Inc., 1965.

McEvoy, Paul. Learning How to Use the Dictionary. New York: The Macmillan Co., 1963.

Nanassy, L. C., and Selden, W. Business Dictionary. Englewood Cliffs, N. J.: Prentice-Hall, Inc., 1960.

Patton, David H., and Johnson, Eleanor M. Common Words for Secondary Schools. Columbus, Ohio: Charles E. Merrill Books, Inc., 1958.

Robinson, Francis P. Effective Study. New York: Harper & Bros., 1961.

Silverthorn, J. E. Word Division Manual. Cincinnati, Ohio: South-Western Publishing Co., Inc., 1958.

## TABULATING MACHINE OPERATION (TM)

### Hours Required

Class: 1 hour daily — Total: 90 hours

### Description

This unit is designed to prepare students for entry level jobs as operators of equipment normally found in the tabulating department.

### Teaching Tips

The unit includes instruction and practice in operating equipment, card handling, production jobs, and the use and storage of supplies. Only elementary wiring procedures are studied. This should be a "hands on" unit. Additional details can be found in the U.S.O.E. publication number OE86010.

**Topic Outline**

- I. Punched Card System
- II. The Unit Record
- III. Machine Functions
- IV. Elements of the Machine
- V. Card Punch and Verifier
- VI. Features and Uses of Unit Record Equipment
- VII. Elementary Wiring Techniques
- VIII. Unit Record Flow Charting
- IX. Applications

TOPIC I - PUNCHED CARD SYSTEM

- A. Historical development
- B. Typical uses

TOPIC II - THE UNIT RECORD

- A. Format
- B. Code
- C. Field definition
- D. Care and storage of cards

TOPIC III - MACHINE FUNCTIONS

- A. Recording
- B. Classifying
- C. Calculating
- D. Report preparation

TOPIC IV - ELEMENTS OF THE MACHINE

- A. Card feeding
- B. Card reading
- C. Printing units
- D. Card punching
- E. Control panels

TOPIC V - CARD PUNCH AND VERIFIER

- A. Features
- B. Functions

TOPIC VI - FEATURES AND USES OF UNIT RECORD EQUIPMENT

- A. Interpreter
- B. Sorter
- C. Reproducing punch
- D. Collator
- E. Tabulator
- F. Calculator

TOPIC VII - ELEMENTARY WIRING TECHNIQUES

- A. Collator
- B. Interpreter
- C. Reproducing punch
- D. Accounting machine (tabulator)

TOPIC VIII - UNIT RECORD FLOW CHARTING

- A. Diagrams and symbols
- B. Reading and interpreting flow charts

TOPIC IX - APPLICATIONS

- A. Payroll
- B. Inventory
- C. Subsidiary ledgers
- D. Long runs

**Texts and Other Teaching Materials**

From the following suggested texts and materials (or other equivalent commercially available material), select trainee and teacher materials for use in this unit. Additional references are listed in Appendix B.

Bux, William E. Key-Punch Training Course. Cincinnati, Ohio: South-Western Publishing Co., Inc., 1966.

__________. Sorter and Tabulator Course. Cincinnati, Ohio: South-Western Publishing Co., Inc., 1966.

IBM Corporation. Basic Data Processing Course. Item No. R22-0005-0.

________. 82, 83, and 84 Sorter. Item No. A24-1034.

________. 513, 514, Reproducing Punches. Item No. A24-1002-2.

________. 407 Accounting Machines. Item No. A24-1011-1.

________. Introduction to IBM Data Processing Systems. Item No. F22-6517-1, 1963.

________. Machine Functions. Item No. 224-8208-4.

________. Operator's Guide. Item No. A24-1010.

________. Punched Card Data Processing Principles. Item No. 320-1443.

________. Punched Card Machine Operator, Aptitude Test. Item No. R29-0024.

McGill, Donald A. Punched Cards—Data Processing for Profit Improvement. New York: McGraw-Hill Book Co., Inc., 1962.

Salmon, Lawrence J. IBM Machine Operation and Wiring. Belmont, California: Wadsworth Publishing Co., Inc., 1962.

Van Ness, Robert G. Principles of Punched Card Data Processing. Elmhurst, Illinois: The Business Press, 1965. (Secondary Schools Edition)

Wanous, S. J., and Wanous, E. E. Automation Office Practice. Cincinnati, Ohio: South-Western Publishing Co., Inc., 1964.

## TABULATING MACHINE WIRING (TMW)

### Hours Required

Class: 1 hour daily
Total: 60 hours

### Description

This unit is designed to provide the trainee with introductory training in the wiring of tabulating machine control panels.

### Teaching Tips

After planning an application on wiring diagrams, the students should wire the boards and test them on the tabulating machine. Emphasis is placed on wiring fundamentals although attention is given to basic tab department working routines. Additional details may be found in the U.S.O.E. publication number OE86010.

### Topic Outline

I. The Tabulating Machine
II. Introduction to Wiring
III. Basic Wiring Procedures
IV. Applications

#### TOPIC I - THE TABULATING MACHINE

A. Features

B. Functions

#### TOPIC II - INTRODUCTION TO WIRING

A. The panel

B. Wires and tools

C. Flow chart reading

D. Report formats

E. Use of wiring diagrams

#### TOPIC III - BASIC WIRING PROCEDURES

A. Printing

B. Selection

C. Addition

D. Subtraction

E. Summary punching

## TOPIC IV - APPLICATIONS

A. Payroll

B. Sales analysis

C. Inventory

D. Heavy production run

### Texts and Other Teaching Materials

From the following suggested texts and materials (or other equivalent commercially available material), select trainee and teacher materials for use in this unit. Additional references are listed in Appendix B.

American Data Processing, Inc., Data Processing Wiring Guide. Detroit, Michigan, 1962.
Bux, William E. Sorter and Tabulator Course. Cincinnati, Ohio: South-Western Publishing Co., Inc., 1966.
IBM Corporation. 407 Accounting Machines. Item No. A24-1011-1.
________________. Functional Wiring Principles. Item No. A24-1007.
________________. Operator's Guide. Item No. A24-1010.
Salmon, Lawrence J. IBM Machine Operation and Wiring. Belmont, California: Wadsworth Publishing Co., Inc., 1962.
Van Ness, Robert G. Principles of Punched Card Data Processing. Elmhurst, Illinois: The Business Press, 1965.

## TYPING I (T-I)*

### Hours Required

Class: 1 hour daily Total: 60 hours

### Description

This unit emphasizes basic principles of touch typewriting--with emphasis on vocational applications. The unit also includes an introduction to the basic fundamentals of arranging copy, typing of manuscripts, tables, and some business forms.

### Teaching Tips

Concentrate on good techniques, appropriate speed, and accurate copy.

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*Under normal conditions trainees will have had a basic course in the fundamentals of typewriting. However, if the trainee has no such background the course should be offered for vocational competence.

**Topic Outline**

- I. Learning to Use the Keyboard and Operative Parts
- II. Developing Speed and Control
- III. Building Skill on Alphabetic and Numeric Keyboard
- IV. Use of Special Characters and Symbols
- V. Application of Typewriting Skill
- VI. Related Typewriting Projects

## TOPIC I - LEARNING TO USE THE KEYBOARD AND OPERATIVE PARTS

- A. Preparing to typewrite
  - 1. Position at the typewriter
  - 2. Use of operative parts
  - 3. Introduction of stroking techniques
- B. Learning keyboard control
  - 1. Alphabetic keyboard
  - 2. Numeric keyboard
  - 3. Introduction of keyboard symbols

## TOPIC II - DEVELOPING SPEED AND CONTROL

- A. Review of letter and number reaches
- B. Rhythm drills for efficiency
- C. Phrases and simple word combinations
- D. Speed sentences
- E. Words and number content drills
- F. Control sentence typewriting
- G. Remedial drills

## TOPIC III - BUILDING SKILL ON ALPHABETIC AND NUMERIC KEYBOARD

- A. Warm-up or conditioned practice
- B. Technique drills
- C. Control and speed drill
- D. Guided writings
- E. Numeric drills
  - 1. Home position method
  - 2. Pipe organ method
- F. Error-control drill
- G. Paragraph practice

## TOPIC IV - USE OF SPECIAL CHARACTERS AND SYMBOLS

- A. Arithmetic symbols
- B. Punctuation
- C. Technical symbols
- D. Measurement
- E. Superior and inferior numbers
- F. Manuscript references
- G. Billing symbols
- H. Fractions

## TOPIC V - APPLICATION OF TYPEWRITING SKILL

- A. Centering
  - 1. Horizontal
  - 2. Vertical
- B. Simple tabulation
- C. Letter forms
  - 1. Personal letters
  - 2. Business letters
  - 3. Inter-office memoranda
  - 4. Postal cards

## TOPIC VI - RELATED TYPEWRITING PROJECTS

- A. Business forms
  - 1. Requisitions
  - 2. Invoices
  - 3. Telegrams
  - 4. Statements
  - 5. Shipping forms
- B. Reports
  - 1. Outline, script
  - 2. One-page rough draft
  - 3. Formal reports
  - 4. Footnoted reports

### Texts and Other Teaching Materials

From the following suggested texts and materials (or other equivalent commercially available material), select trainee and teacher materials for use in this unit. Additional references are listed in Appendix B.

Altholz, Gertrude. Modern Typewriting Practice. 3rd ed. New York: Pitman Publishing Corp., 1962.

Fries, Albert C. Timed Writings About Careers. Cincinnati, Ohio: South-Western Publishing Co., Inc., 1963.

Leslie, Louis A., and Pepe, Philip S. Typing Simplified--Brief Course. 2nd ed. New York: American Book Co., 1960.

________________. Typing Simplified--One Year Course. 2nd ed. New York: American Book Co., 1960.

Lessenberry, D. D.; Crawford, T. James; and Erickson, Lawrence W. 20th Century Typewriting--Complete Course. 9th ed. Cincinnati, Ohio: South-Western Publishing Co., Inc., 1967.

Liguori, Frank E. Basic Typewriting Operations. Cincinnati, Ohio: South-Western Publishing Co., Inc., 1965.

Reed, Conover, Prowell. Comprehensive Typewriting. Boston, Massachusetts: Allyn and Bacon, 1964.

Reigner, Charles G., and Rygiel, Walter S. Rowe Typing. 4th ed. Baltimore, Maryland: H. M. Rowe Co., 1958.

Rowe, John L., and Etier, Faborn. Typewriting Drills for Speed and Accuracy. 2nd ed. New York: McGraw-Hill Book Co., Inc., 1966.

________; Lloyd, Alan C.; and Winger, Fred E. Gregg Typing--191 Series, Book One. New York: McGraw-Hill Book Co., Inc., 1967.

Scott, Wesley E.; Hamilton, William J.; and Hertzfeld, Arthur. Modern Basic Typewriting. 2nd ed. New York: Pitman Publishing Corp., 1962.

Thompson, James M. 101 Typewriting Timed Writings. 2nd ed. Cincinnati, Ohio: South-Western Publishing Co., Inc., 1961.

Tidwell, M. Fred, and Stuart, Esta Ross. Tidwell-Stuart Typing--One Year Course. Englewood Cliffs, N. J.: Prentice-Hall, Inc., 1964.

Wanous, S. J., and Wanous, E. E. Basic Typewriting Drills. 3rd ed. Cincinnati, Ohio: South-Western Publishing Co., Inc., 1958.

Winger, Fred E.; Rowe, John L.; and Lloyd, Alan C. Gregg Typing I. Gregg Adult Education Series. New York: McGraw-Hill Book Co., Inc., 1965.

# SPECIALIZED OFFICE EDUCATION UNITS

The following pages show the occupations classified in the Dictionary of Occupational Titles, third edition, 1965, as Computing and Accounting Office Occupations.

Following each specific occupation there is a recommended course of study containing the General Office Education Units as described on the preceding pages. Where appropriate, Specialized Office Education Units are shown. The course outlines for the Specialized Units necessary for each occupation are described immediately following the suggested course of study.

The Specialized Education Units are set apart from the General Office Education Units since only a limited number of occupations require a knowledge of special courses--courses necessary to the pursuit of a specific office occupation.

It is required that the instructor give as realistic occupational training as is possible. Three common techniques for offering realistic training follow:

> **COOPERATIVE OFFICE EDUCATION** represents the coordination of classroom instruction and supervised on-the-job training, each reinforcing the other. With office instruction serving as an extension to classroom instruction, the student is given a clear understanding and appreciation of office procedures and problems. To safeguard the interest of the student, the on-the-job work experience is varied in nature and organized around the career objective of the student. This is the most realistic form of work experience programs.
>
> The success or failure of a Cooperative Office Education program depends upon the manner in which the teacher-coordinator carries out his responsibilities. The State Plan for Vocational Education defines the work experience and educational qualifications required of teacher-coordinators.
>
> **DIRECTED OFFICE EDUCATION** is similar to the cooperative program in that the learning experiences, both in the classroom and on the job, are carefully planned and coordinated to the abilities and needs of the student and his career objective. The realistic work experience phase of the program occurs in the office of a local firm, school system, or governmental agency. While not embracing all of the aspects of a cooperative program, the directed work experience activities help bridge the gap between the school and the world of work.
>
> **SIMULATED OFFICE EDUCATION** is used when the Cooperative or Directed programs are not feasible. It uses the intensive block of time concept to provide problem solving experience typical of the world of work and the facilitating function of the office. It realistically relates classroom activities to actual job requirements. A model office laboratory may be used so that the student is educated as a "whole office worker" with education experiences as real office assignments.

It should be noted that in the occupational titles which follow the first three digits of the Dictionary of Occupational Titles number are shown to designate each major job category. Numerous specific job occupations are listed under each three digit major job category. These job occupations require similar general office education units of training; however, the second set of three digits (to the right of the decimal point) indicates some slight variations. It is suggested that the instructor and the administrator research Volume II of the Dictionary of Occupational Titles to determine these specific differences. The local need for specialized workers within each major job category should determine the individualized training which is given.

## BOOKKEEPERS

**Group Description** **D.O.T. No. 210***

This group includes occupations concerned with computing, classifying, and recording numerical data to keep sets of financial records complete.

Bookkeepers are designated by base titles and defined related titles according to their 6-digit code numbers as:

**D.O.T. No. 210.368**

Account-Information Clerk (light, heat, & power)
Insurance Clerk (medical services)

**Job Description**

Account-Information Clerk (light, heat, & power). Keeps accounting records and compiles information requested by customer and others pertaining to customer accounts: Keeps records and prepares report of meters registering use of gas or electric power, showing results of investigations and amounts recovered or lost. Prepares lists and enters charges and payments to customers' accounts for losses, additional deposits, special and irregular charges. Keeps records of over-payments on customer accounts. Applies overpayments to charges on customers' accounts or prepares vouchers for refunds. Investigates incorrect billings due to charges or credits on customers' accounts and prepares written instructions for correction. Reviews accounts not billed and prepares meter books which were received too late for billing, such as meter test reports and missed meter readings. Prepares lists of special billing instructions, incorporating charges shown on customers' accounts. Processes final bills that exceed amount of deposits to enter amount of net bills.

Insurance Clerk (medical services). Examines life insurance policies held as security for commercial or personal credit loans and keeps records of bank-owned insurance and fire insurance on commodity loans: Verifies date, cash value, and premium due date of policies. Computes total cash value to obtain loan value, using calculator. Reviews policies to insure that bank's interests are guaranteed. Composes and types letters to insurance company to clarify questionable items in policy. Prepares demand secured note showing amount of loan, customer, date, collateral, interest, and daily accrual. Answers customers' inquiries relating to loans by phone or letter. Routes loan documents to designated branch when loan is approved. Releases insurance policy if other collateral is sufficient to cover loan or requests additional collateral to protect bank's interest. Carries out bank and loan procedures to liquidate loan upon death of customer. Keeps records of bank-owned insurance, files claims against insurance companies, and prepares reports on surrender value of policies. Keeps records of fire insurance on commodities held as collateral. Reviews policies for expiration dates and notifies customers to renew policies.

**Prerequisites**

### For Occupation

An occupationally significant combination of: Verbal facility and the ability to relate to people in order to tactfully acquire information and create a good impression in answering inquiries; exactness and attention to detail in reviewing records and avoiding errors; numerical ability for situations involving accounts and numerical records; and a liking for public contact work.

### For Occupational Course of Study

As a prerequisite for entering the occupational course the trainee should have skills and knowledge equivalent to those gained from the General Office Education Units suggested as pertinent to these occupations.

The local instructor may check the trainee's previously acquired abilities against the Standards of Achievement for the General Office Education Units in order to plan the curriculum for the trainee.

| Appropriate General Office Education Units | (Clock) Hours |
|---|---|
| Adding and Calculating Machines | 60 |
| Applied Office Mathematics | 30 |
| Bookkeeping and Accounting I | 60 |
| Bookkeeping and Accounting II | 60 |
| Business Behavior and Psychology | 30 |
| Business Communication and Language Skills | 45 |
| Indexing | 15 |
| Introduction to Office Services | 60 |
| Office Practice I - General | 60 |
| Principles of Data Processing | 60 |
| Principles of Mathematics | 30 |
| Spelling and Vocabulary | 30 |
| Typing I | 60 |
| Realistic Work Experience | |
| **Specialized Office Occupation Units** | |
| Business Law | 30 |

# BUSINESS LAW (BL)

## Hours Required

Class: 1 hour daily Total: 30 hours

## Description

This unit will introduce students to the important subject of legal rights and responsibilities as they apply in business and office situations.

## Teaching Tips

Attention should be given to contractual relations. Employee-employer relationships should be presented as well as basic information concerning commercial paper. This unit should recognize the Uniform Commercial Code.

## Topic Outline

I. Basis of Law in Business
II. Contracts
III. Employment
IV. Commercial Paper
V. Services of an Attorney

### TOPIC I - BASIS OF LAW IN BUSINESS

A. Historical development

B. Importance

C. Legal aspects of business

### TOPIC II - CONTRACTS

A. Formation of contracts
   1. Written
   2. Oral
   3. Implied

B. Elements of a contract

C. Performance of contracts

D. Termination of contracts

E. Types of contracts

### TOPIC III - EMPLOYMENT

A. Employment contracts

B. Labor-management relations

C. Rights and duties
   1. Of employer
   2. Of employee

D. Termination

E. Employee benefits

### TOPIC IV - COMMERCIAL PAPER

A. Kinds and purposes

B. Form and content

C. Transfer

### TOPIC V - SERVICES OF AN ATTORNEY

A. When business uses an attorney

B. How business uses an attorney

## Texts and Other Teaching Materials

From the following suggested texts and materials (or other equivalent commercially available material), select trainee and teacher materials for use in this unit. Additional references are listed in Appendix B.

Fisk, McKee, and Snapp, James C. Applied Business Law. 9th ed. Cincinnati, Ohio: South-Western Publishing Co., Inc., 1966.
Getz, S. G. Business Law. 3rd ed. Englewood Cliffs, N. J.: Prentice-Hall, Inc., 1966.

Goodman, Kennard E. *Today's Business Law--Uniform Commercial Code Edition.* New York: Pitman Publishing Corp., 1966.

Howard, Lowell B. *Business Law--An Introduction. Paper ed.* Great Neck, N. Y.: Barron's Educational Series, Inc., 1964.

Rosenberg, R. Robert, and Crank, Floyd L. *Essentials of Business Law. 3rd ed.* New York: McGraw-Hill Book Co., Inc., 1963.

Schneider, Arnold E., Smith, Edward A., and Whitcraft, John E. *Personal Business Law. 3rd ed.* New York: McGraw-Hill Book Co., Inc., 1963.

# BOOKKEEPERS

Group Description — D.O.T. No. 210*

This group includes occupations concerned with computing, classifying, and recording numerical data to keep sets of financial records complete.

Bookkeepers are designated by base titles and defined related titles according to their 6-digit code numbers as:

D.O.T. No. 210.388

- Audit Clerk (clerical)
- Distribution Accounting Clerk (light, heat, & power)
- Reconcilement Clerk (banking)
- Billing Control Clerk (light, heat, & power)
- Bookkeeper (clerical) I
- General-Ledger Bookkeeper (clerical)
- Night Auditor (hotel & restaurant)
- Bookkeeper (clerical) II
- Account-Classification Clerk (clerical)
- Classification-Control Clerk (clerical)
- Commodity-Loan Clerk (banking)
- Fixed-Capital Clerk (light, heat, & power)
- Medical-Voucher Clerk (insurance)
- Mortgage-Loan-Computation Clerk (insurance)

Job Description

Audit Clerk (clerical). Verifies accuracy of figures, calculations, and postings pertaining to business transactions recorded by other workers: Examines expense accounts, commissions paid to employees, loans made on insurance policies, interest and account payments, cash receipts, sales tickets, bank records, inventory and stock-record sheets, and similar items to verify accuracy of recorded data.

Distribution Accounting Clerk (light, heat, & power). Audits time and material charges on work orders for construction, maintenance, and operation of electric-power distribution lines: Reviews construction sketches and bills of materials at time work order is issued to insure accurate listings of material quantities and assignment of accounting classifications.

Reconcilement Clerk (banking). Reconciles bank statements received from other banks, such as branch banks and Federal Reserve banks. Compiles reports for bank examiners to expedite auditing of accounts. Compiles and mails monthly reconcilement report to Federal Reserve Bank.

Billing Control Clerk (light, heat, & power). Reviews and posts data from meter books and marks special accounts: Marks accounts with fixed demands, combined bills for more than one meter connection, and those requiring use of constant multipliers to extend meter reading to actual consumption. Posts date and special meter readings and estimated readings.

Bookkeeper (clerical) I. Keeps records of financial transactions of establishment: Verifies and enters details of transactions as they occur or in chronological order in account and cash journals from items, such as sales slips, invoices, check stubs, inventory records, and requisitions. Summarizes details on separate ledgers, using adding machine, and transfers data to general ledger. Balances books and compiles reports to show statistics, such as cash receipts and expenditures, accounts payable and receivable, profit and loss, and other items pertinent to operation of business. Calculates employee wages from plant records or timecards and makes up checks or withdraws cash from bank for payment of wages.

General-Ledger Bookkeeper (clerical). Compiles and posts in general ledgers information or summaries concerning various business transactions that have been recorded in separate ledgers by other clerks.

Night Auditor (hotel & restaurant). Verifies and balances entries and records of financial transactions reported and recorded by various hotel departments during day.

Bookkeeper (clerical) II. Keeps one section of set of financial records, performing duties as described under Bookkeeper I.

Account-Classification Clerk (clerical). Classifies each item on accounts-payable invoices, noting after each item account to which it is to be charged by Posting Clerk.

Classification-Control Clerk (clerical). Classifies, for bookkeeping purposes, each item on reports, work orders, material requisitions, and invoices, noting after each item the ledger account to which it is to be charged, or classifies items for statistical purposes according to predetermined system.

Commodity-Loan Clerk (banking). Keeps records of loans in foreign department, secured by commodities (as collateral) in warehouses. Makes periodic physical check of commodities in warehouses to insure that loans made will not exceed collateral value. Attends to general correspondence relating to loans.

Fixed-Capital Clerk (light, heat, & power). Keeps records of fixed-capital accounts: Posts completed gas or electric work orders to respective accounts in plant ledgers. Appraises retirement values of equipment, such as gas mains, regulators, meters, and transformers, and posts retirements to fixed-capital record books. Balances fixed-capital record books with respective control accounts in general ledger. Prepares journal vouchers, makes trial balances, and compiles reports of money charged to fixed-capital accounts.

Medical-Voucher Clerk (insurance). Examines vouchers sent in by doctors who have made medical examinations of insurance applicants, and approves vouchers for payment. Notes fee on form and sends it to medical director.

Mortgage-Loan-Computation Clerk (insurance). Compiles ledger accounts on mortgage loans, using calculating machine: Examines ledger card for balance owed by debtor. Computes interest, principal, and added charges, such as taxes or insurance. Enters results of calculations in ledger accounts.

## Prerequisites

### For Occupation

An occupationally significant combination of: Intellectual capacity and interest sufficient to acquire an understanding of systematic, numerical, recordkeeping and data-gathering procedures; ability to apply arithmetic principles and correct computational errors; attention to detail to avoid clerical errors; form perception; eye-hand coordination; and finger and manual dexterity.

### For Occupational Course of Study

As a prerequisite for entering the occupational course, the trainee should have skills and knowledge equivalent to those gained from the General Office Education Units suggested as pertinent to these occupations.

The local instructor may check the trainee's previously acquired abilities against the Standards of Achievement for the General Office Education Units in order to plan the curriculum for the trainee.

| Appropriate General Office Education Units | (Clock) Hours |
|---|---|
| Adding and Calculating Machines | 60 |
| Applied Office Mathematics | 30 |
| Bookkeeping and Accounting I | 60 |
| Bookkeeping and Accounting II | 60 |
| Business Behavior and Psychology | 30 |

| Appropriate General Office Education Units (Continued) | (Clock) Hours |
|---|---|
| Business Communications and Language Skills | 45 |
| Indexing | 15 |
| Introduction to Office Services | 60 |
| Office Practice I - General | 60 |
| Posting Machine Operation | 30 |
| Principles of Data Processing | 60 |
| Principles of Mathematics | 30 |
| Spelling and Vocabulary | 30 |
| Typing I | 60 |
| Realistic Work Exprience | |

| Specialized Office Occupation Units | |
|---|---|
| Bookkeeping and Accounting III | 60 |
| Bookkeeping and Accounting IV | 60 |

## BOOKKEEPING AND ACCOUNTING III (BA-III)

### Hours Required

Class: 1 hour daily

Total: 60 hours

### Description

This unit is designed to follow Bookkeeping and Accounting II. It will prepare the trainee with vocational competence to do bookkeeping work for a small business or prepare him to work in a specialized section in the accounting department of a large business. More advanced bookkeeping and accounting problems are treated such as: depreciation and depletion, negotiable paper, accrued and prepaid items, and work at the end of the fiscal period.

### Teaching Tips

For this unit of instruction, only trainees should be admitted who have proven their affinity for the subject of bookkeeping and accounting. The basis for this unit is a knowledge of the complete service business and mercantile business bookkeeping cycle. A knowledge of work at the end of the fiscal period and statements is essential for progress in this unit. Realistic work experience in keeping a set of account books should be provided the trainee by having him complete a bookkeeping practice set of materials. The practice set should simulate actual source documents of a business as well as books of account.

### Topic Outline

I. Review of Mercantile Bookkeeping Cycle
II. Departmental Records
III. Ledgers—General and Subsidiary
IV. Payroll Records and Transactions
V. Depreciation and Depletion of Assets
VI. Prepaid and Accrued Items
VII. Negotiable Paper
VIII. Practice Material

### TOPIC I - REVIEW OF MERCANTILE BOOKKEEPING CYCLE

A. Journals

B. Ledgers

C. Worksheet

D. Statements

### TOPIC II - DEPARTMENTAL RECORDS

A. Purchases

B. Sales
   1. Columnar
   2. Sales taxes

C. Cash receipts

D. Cash payments
   1. Cash register
   2. Totals

### TOPIC III - LEDGERS—GENERAL AND SUBSIDIARY

A. General ledger
   1. Account classification
   2. Posting individual amounts
   3. Posting totals

B. Accounts receivable ledger
   1. Control account
   2. Posting individual and total amounts
   3. Bad debts

C. Accounts payable ledger
   1. Control account
   2. Posting individual and total amounts

### TOPIC IV - PAYROLL RECORDS AND TRANSACTIONS

A. Payroll taxes

B. Other deductions from salary

C. Payroll register

D. Payroll entries
   1. General journal
   2. Cash payments journal

E. Payroll reports
   1. Local
   2. State
   3. Federal

### TOPIC V - DEPRECIATION AND DEPLETION OF ASSETS

A. Common methods
   1. Straight line
   2. Declining balance
   3. Sum-of-the-years digits
   4. Others

B. Disposal

### TOPIC VI - PREPAID AND ACCRUED ITEMS

A. Prepaid expenses

B. Advance income

C. Accrued expense

D. Accrued income

### TOPIC VII - NEGOTIABLE PAPER

A. Notes receivable
   1. Interest
   2. Entries for interest

B. Notes payable
   1. Interest
   2. Entries for interest

C. Drafts

D. Trade acceptances

### TOPIC VIII - PRACTICE MATERIAL

At this point it is recommended that the teacher provide realistic experience in keeping a set of account books by introducing the trainee to a bookkeeping partnership practice set or a major project involving the keeping of a set of books for a partnership. This project should simulate actual business practices as closely as possible. It is suggested that a practice set with business papers and books of original entry and ledgers are the most realistic vocational experience which can be given the trainee at this point.

### Texts and Other Teaching Materials

From the following suggested texts and materials (or other equivalent commercially available material), select trainee and teacher materials for use in this unit. Additional references are listed in Appendix B.

Bridenbaugh, Vachel E.; Lins, Angeline G.; and Elwell, Fayette H. Bookkeeping Principles. New York: Pitman Publishing Corp., 1958.

Brock, E.; Palmer, A.; and Archer, Fred. College Accounting. Intermediate Course and Advanced Course. New York: McGraw-Hill Book Co., Inc., 1966.

Carlson, Paul A.; Forkner, Hamden L.; and Boynton, Lewis D. 20th Century Bookkeeping and Accounting. 22nd ed. Cincinnati, Ohio: South-Western Publishing Co., Inc., 1962.

Ellsworth, J. Phil, and Jackson, Paul R. Applied Bookkeeping. 4th ed. New York: McGraw-Hill Book Co., Inc., 1965.

Freeman, M. Herbert; Hanna, J. Marshall; and Kahn, Gilbert. Gregg Bookkeeping and Accounting. 3rd ed. Advanced Course. New York: McGraw-Hill Book Co., Inc., 1963.

Fritz, Noble, and Hoffman, G. Bookkeeping Fundamentals. New York: McGraw-Hill Book Co., Inc.

Janis, Arthur, and Miller, Morris. Fundamentals of Modern Bookkeeping. New York: Pitman Publishing Corp., 1965.

Meigs, Walter B., and Johnson, Charles E. Accounting. The Basis for Business Decisions. New York: McGraw-Hill Book Co., Inc., 1962.

Olson, Milton; Zelliot, Ernest A.; and Leidner, Walter E. Introductory Bookkeeping. 3rd ed. Englewood Cliffs, N. J.: Prentice-Hall, Inc., 1961.

Pactor, Paul. Bookkeeping Machines Practice Set. New York: Pitman Publishing Corp., 1961.

Van Voorhis, J.; Palmer, A.; and Archer, Fred. College Accounting, Theory and Practice. New York: McGraw-Hill Book Co., Inc., 1963.

## BOOKKEEPING AND ACCOUNTING IV (BA-IV)

### Hours Required

Class: 1 hour daily    Total: 60 hours

### Description

The trainee is instructed in corporation bookkeeping and accounting, voucher control, inventory control, and stock issuance and control.

### Teaching Tips

This is the first unit designed to prepare the trainee to accept a position in a large business. This unit and succeeding units should probably be taken only by the trainee who has proven to be vocationally competent in the area of bookkeeping and accounting. The trainee should have successfully completed Bookkeeping and Accounting I, II, and III, or the equivalent. Practical experience in keeping a set of account books should be provided by having the trainee complete a bookkeeping project which simulates the actual source documents, books of original entry, ledgers, and work at the end of the fiscal period found in offices.

### Topic Outline

I. Review of Bookkeeping Cycle
II. The Voucher System
III. Inventory Control and Valuation
IV. Notes, Time Drafts, Trade Acceptances
V. Corporation Accounting
VI. Practice Material

### TOPIC I - REVIEW OF BOOKKEEPING CYCLE

A. Journals and ledger

B. Assets, liabilities, proprietorship

C. Statements

D. Reports

### TOPIC II - THE VOUCHER SYSTEM

A. Purpose, advantages, disadvantages

B. Forms

C. Voucher register

D. Check register

E. Unpaid vouchers

### TOPIC III - INVENTORY CONTROL AND VALUATION

A. Determining quantity
   1. Physical inventory
   2. Perpetual inventory

B. Pricing merchandise
   1. Cost or market
   2. Cost from catalog
   3. FIFO
   4. LIFO
   5. Inventory cards

### TOPIC IV - NOTES, TIME DRAFTS, TRADE ACCEPTANCES

A. Notes receivable
   1. Receipt of payments and interest
   2. Register
   3. Discounting
   4. Dishonor

B. Notes payable
   1. Payment and interest
   2. Register

C. Trade acceptances

D. Time drafts

### TOPIC V - CORPORATION ACCOUNTING

A. Nature of corporations
   1. Formation
   2. Management

B. Stocks
   1. Subscription
   2. Sale

C. End of fiscal period
   1. Retained earnings
   2. Dividends
   3. Taxes

D. Proprietorship section of the Balance Sheet

## TOPIC VI - PRACTICE MATERIAL

The ability of the trainees in this unit should determine if there is adequate time to complete a realistic problem of a 1-month corporation practice set containing actual business papers, books of original entry, ledgers, and work at the end of the fiscal period. Since the unit is an intensive one, it may be practical to offer an intensive project only. However, in so far as it is practical, the trainee should be given as much practice on handling accounts as possible.

### Texts and Other Teaching Materials

From the following suggested texts and materials (or other equivalent commercially available material), select trainee and teacher materials for use in this unit. Additional references are listed in Appendix B.

Bridenbaugh, Vachel E.; Lins, Angeline G.; and Elwell, Fayette H. *Bookkeeping Principles.* New York: Pitman Publishing Corp., 1958.

Brock, E.; Palmer, A.; and Archer, Fred. *College Accounting. Intermediate Course and Advanced Course.* New York: McGraw-Hill Book Co., Inc., 1966.

Carlson, Paul A.; Forkner, Hamden L.; and Boynton, Lewis D. *20th Century Bookkeeping and Accounting. 22nd ed.* Cincinnati, Ohio: South-Western Publishing Co., Inc., 1962.

Ellsworth, J. Phil, and Jackson, Paul R. *Applied Bookkeeping. 4th ed.* New York: McGraw-Hill Book Co., Inc., 1965.

Freeman, M. Herbert; Hanna, J. Marshall; and Kahn, Gilbert. *Gregg Bookkeeping and Accounting. 3rd ed. Advanced Course.* New York: McGraw-Hill Book Co., Inc., 1963.

Fritz, Noble, and Hoffman, G. *Bookkeeping Fundamentals.* New York: McGraw-Hill Book Co., Inc., 1965.

Janis, Arthur, and Miller, Morris. *Fundamentals of Modern Bookkeeping.* New York: Pitman Publishing Corp., 1965.

Meigs, Walter B., and Johnson, Charles E. *Accounting. The Basis for Business Decisions.* New York: McGraw-Hill Book Co., Inc., 1962.

Olson, Milton; Zelliot, Ernest A.; and Leidner, Walter E. *Introductory Bookkeeping. 3rd ed.* Englewood Cliffs, N. J.: Prentice-Hall, Inc., 1961.

Pactor, Paul. *Bookkeeping Machines Practice Set.* New York: Pitman Publishing Corp., 1961.

Van Voorhis, J.; Palmer, A.; and Archer, Fred. *College Accounting, Theory and Practice.* New York: McGraw-Hill Book Co., Inc., 1963.

## BOOKKEEPERS

**Group Description** D.O.T. No. 210*

This group includes occupations concerned with computing, classifying, and recording numerical data to keep sets of financial records complete.

Bookkeepers are designated by base titles and defined related titles according to their 6-digit code numbers as:

**D.O.T. No. 210.488**

Chart Calculator (light, heat, & power)
Dividend-Deposit-Voucher Quoter (insurance)

**Job Description**

Chart Calculator (light, heat, & power). Computes power factor and net amount of electric power consumed by customer and determines peak load demand to verify application of appropriate rates. Enters information on record forms for monthly billing purposes.

Dividend-Deposit-Voucher Quoter (insurance). Keeps record of accruing dividends on insurance policies and calculates and records interest due on them.

**Prerequisites**

### For Occupation

An occupationally significant combination of: Intellectual capacity and interest sufficient to acquire an understanding of systematic, numerical, recordkeeping and data-gathering procedures; ability to apply arithmetic principles and correct computational errors; attention to detail to avoid clerical errors; form perception; eye-hand coordination; and finger and manual dexterity.

### For Occupational Course of Study

The trainee should have skills and knowledge equivalent to those gained from the General Office Education Units suggested as pertinent to these occupations.

The local instructor may check the trainee's previously acquired abilities against the Standards of Achievement for the General Office Education Units in order to plan the curriculum for the trainee.

| Appropriate General Office Education Units | (Clock) Hours |
|---|---|
| Adding and Calculating Machines | 60 |
| Applied Office Mathematics | 30 |
| Bookkeeping and Accounting I | 60 |
| Bookkeeping and Accounting II | 60 |
| Business Behavior and Psychology | 30 |
| Business Communication and Language Skills | 45 |
| Indexing | 15 |
| Introduction to Office Services | 60 |
| Office Practice I - General | 60 |
| Principles of Mathematics | 30 |
| Spelling and Vocabulary | 30 |
| Typing I | 60 |
| Realistic Work Experience | |

## BOOKKEEPERS

**Group Description** **D.O.T. No. 210***

This group includes occupations concerned with computing, classifying, and recording numerical data to keep sets of financial records complete.

Bookkeepers are designated by base titles and defined related titles according to their 6-digit code numbers as:

**D.O.T. No. 210.588**

Insurance Clerk (clerical) II

**Job Description**

Insurance Clerk (clerical) II. Keeps records of group insurance policies, such as life, hospitalization, and workmen's compensation, covering company employees and dependents: Explains application blanks and forwards them to insurance company. Files records of claims and fills out cancellation forms when employees leave company service. May correspond with physicians, hospitals, and employees regarding claims.

**Prerequisites**

For Occupation

An occupationally significant combination of: Common sense to learn and follow routine clerical procedures; verbal ability and clerical aptitude to keep accurate and legible records and to perform such tasks as sorting bills, receipts, and invoices.

For Occupational Course of Study

The trainee should have skills and knowledge equivalent to those gained from the General Office Education Units suggested as pertinent to this occupation.

The local instructor may check the trainee's previously acquired abilities against the Standards of Achievement for the General Office Education Units in order to plan the curriculum for the trainee.

| Appropriate General Office Education Units | (Clock) Hours |
|---|---|
| Adding and Calculating Machines | 60 |
| Applied Office Mathematics | 30 |
| Bookkeeping and Accounting I | 60 |
| Bookkeeping and Accounting II | 60 |
| Business Behavior and Psychology | 30 |
| Business Communication and Language Skills | 45 |
| Indexing | 15 |
| Introduction to Office Services | 60 |
| Office Practice I - General | 60 |
| Principles of Mathematics | 30 |
| Spelling and Vocabulary | 30 |
| Typing I | 60 |
| Realistic Work Experience | |

## CASHIERS

Group Description D.O.T. No. 211*

This group includes occupations concerned with receiving and disbursing money in establishments other than banks. Most occupations involve use of adding machines, cash registers, and change makers.

Cashiers are designated by base titles and defined related titles according to their 6-digit code numbers as:

D.O.T. No. 211.138

Money-Room Man, Head (amusements & recreation)
Supervisor, Cashiers (light, heat, & power)

### Job Description

Money-Room Man, Head (amusements & recreation). Supervises and coordinates activities of money-room workers engaged in keeping account of money wagered on each race at race-track: Keeps continuous balance sheet of cash transactions and verifies with cash on hand. Requisitions additional cash as needed. Determines workers needed each day and assigns their duties.

Supervisor, Cashiers (light, heat, & power). Supervises and coordinates activities of Tellers in accepting payments for gas and electric-power bills from customers and keeps records of money received: Interprets company policies and work procedures. Calculates monthly commissions for authorized collection agencies, such as neighborhood stores, from daily summaries of cash receipts by agents. Dictates correspondence or contacts agents by telephone to reconcile errors in their reports. Traces payments made to agents when customer does not receive credit for payment. Interviews customers to assist workers in resolving questions not covered by specified procedures. Prepares regular reports on operations of section. Maintains records of daily overage or shortage in cash receipts.

### Prerequisites

#### For Occupation

An occupationally significant combination of: Ability to become thoroughly familiar with one or more clerical or sales activity; ability to plan ahead and to make assignments in a manner which promotes coordinated action and the completion of individual tasks according to established priorities; ability to communicate effectively orally and in writing, with superiors and subordinates; clerical aptitude to detect errors in correspondence, statistical tabulations, price lists, inventory records, and timetables; ability to motivate people to work cooperatively and conscientiously in activities which are frequently routine and repetitive; and ability to perform work done by subordinates and to train new employees when required.

Generally, trainees in these occupational categories will become supervisors of personnel or services. Therefore, the instructor should read carefully the sections of this guide titled Supervisor, Clerical, and Managers and Officials. The specific occupation for which the trainee is being trained should determine the supervisory units to be studied.

#### For Occupational Course of Study

The trainee should have skills and knowledge equivalent to those gained from the General Office Education Units suggested as pertinent to these occupations.

The local instructor may check the trainee's previously acquired abilities against the Standards of Achievement for the General Office Education Units in order to plan the curriculum for the trainee.

| Appropriate General Office Education Units | (Clock) Hours |
|---|---|
| Adding and Calculating Machines | 60 |
| Applied Office Mathematics | 30 |
| Bookkeeping and Accounting I | 60 |
| Bookkeeping and Accounting II | 60 |
| Business Behavior and Psychology | 30 |
| Business Communication and Language Skills | 45 |
| Business Principles and Management | 60 |
| Correspondence and Report Writing | 30 |
| Filing and Filing Systems | 60 |
| Indexing | 15 |
| Introduction to Office Services | 60 |
| Office Practice I - General | 60 |
| Office Practice II - General | 75 |
| Principles of Data Processing | 60 |
| Principles of Mathematics | 30 |
| Spelling and Vocabulary | 30 |
| Typing I | 60 |
| Realistic Work Experience | |

## CASHIERS

**Group Description** D.O.T. No. 211*

This group includes occupations concerned with receiving and disbursing money in establishments other than banks. Most occupations involve use of adding machines, cash registers, and change makers.

Cashiers are designated by base titles and defined related titles according to their 6-digit code numbers as:

**D.O.T. No. 211.368**

Cashier (clerical) I

**Job Description**

Cashier (clerical) I. Receives funds from customers and employees, disburses funds, and records monetary transactions incidental to conduct of business: Receives incoming cash and checks from customer, employees, or by mail. Counts money to verify amounts and issues receipts for funds received. Issues change and cashes checks. Compares totals on cash register with amount of currency in register to verify balances. Endorses checks and lists and totals cash and checks for bank deposit. Prepares bank deposit slips. Withdraws cash from bank accounts and keeps custody of cash fund. Disburses cash and writes vouchers and checks in payment of company expenditures. Posts data to accounts and balances receipts and disbursements. Compiles collection, disbursement, and bank-reconciliation reports. Operates office machines, such as typewriter, calculating, bookkeeping, and check-writing machines. May authorize various plant expenditures and purchases. May prepare payroll and paychecks. May be designated according to specialization as Agency Cashier (insurance); Cashier, Front Office (hotel & rest.); Circulation Cashier (print. & pub.). When disbursing money in payment of wages, materials, taxes, plant maintenance, and other company expenses, is designated as Disbursement Clerk. When keeping records of cash receipts and maintaining operating reserves in bank for various hotel departments, may be designated as Hotel Cashier, General (hotel & rest.).

**Prerequisites**

### For Occupation

An occupationally significant combination of: Ability to learn and apply bookkeeping procedures; accuracy, rapidity, and attention to detail when exchanging money and recording transactions; manual and finger dexterity to operate calculating machines; tact, courtesy, honesty, a neat appearance, a good memory, and affability.

### For Occupational Course of Study

The trainee should have skills and knowledge equivalent to those gained from the General Office Education Units suggested as pertinent to this occupation.

The local instructor may check the trainee's previously acquired abilities against the Standards of Achievement for the General Office Education Units in order to plan the curriculum for the trainee.

| Appropriate General Office Education Units | (Clock) Hours |
|---|---|
| Adding and Calculating Machines | 60 |
| Applied Office Mathematics | 30 |
| Bookkeeping and Accounting I | 60 |
| Bookkeeping and Accounting II | 60 |
| Business Behavior and Psychology | 30 |
| Business Communication and Language Skills | 45 |
| Indexing | 15 |

| Appropriate General Office Education Units (Continued) | (Clock) Hours |
|---|---|
| Introduction to Office Services | 60 |
| Office Practice I - General | 60 |
| Payroll Records | 30 |
| Posting Machine Operation | 30 |
| Principles of Mathematics | 30 |
| Spelling and Vocabulary | 30 |
| Typing I | 60 |
| Realistic Work Experience | |

## CASHIERS

## Group Description D.O.T. No. 211*

This group includes occupations concerned with receiving and disbursing money in establishments other than banks. Most occupations involve use of adding machines, cash registers, and change makers.

Cashiers are designated by base titles and defined related titles according to their 6-digit code numbers as:

### D.O.T. No. 211.468

Cashier (clerical) II
Desk Clerk (per. ser.)
Drivers'-Cash Clerk (motor trans.)
Toll Collector (gov. ser.)
Cashier, Courtesy Booth (ret. trans.)
Cashier, Gambling (amuse. & rec.)
Cashier, Currency Exchange (bus. ser.)
Cashier-Wrapper (ret. tr.)
Change-Booth Man (amuse. & rec.)
Parimutuel-Ticket Cashier (amuse. & rec.)
Parimutuel-Ticket Seller (amuse. & rec.)
Sheet Writer (amuse.& rec.)
Station Agent (r.r. trans.) II
Teller (light, heat, & power)
Ticket Seller (clerical)

## Job Description

Cashier occupations with a D.O.T. No. 211.468 perform jobs that are similar in nature. Receives cash from customers or employees in payment for goods or services and records amounts received: Recomputes or computes bill, itemized lists, and tickets showing amount due, using adding machine or cash register. Makes change, cashes checks, and issues receipts or tickets to customers. Records amounts received and prepares reports of transactions. Reads and records totals on cash register and verifies against cash on hand. May be required to know value and features of items for which money is received. May give cash refunds or issue credit memorandums to customers for returned merchandise.

## Prerequisites

### For Occupation

An occupationally significant combination of: Ability to work with figures and to learn simple bookkeeping procedures; finger dexterity; tact and courtesy; speed and accuracy in making computations; good eye-hand coordination; neat appearance; pleasant disposition; and, in most cases, ability to operate a cash register or an adding, calculating, or similar machine.

### For Occupational Course of Study

As a prerequisite for entering the occupational course the trainee should have skills and knowledge equivalent to those gained from the General Office Education Units suggested as pertinent to these occupations.

The local instructor may check the trainee's previously acquired abilities against the Standards of Achievement for the General Office Education Units in order to plan the curriculum for the trainee.

| Appropriate General Office Education Units | (Clock) Hours |
|---|---|
| Adding and Calculating Machines | 60 |
| Applied Office Mathematics | 30 |
| Business Behavior and Psychology | 30 |
| Business Communication and Language Skills | 45 |
| Indexing | 15 |
| Introduction to Office Services | 60 |
| Office Practice I - General | 60 |
| Principles of Mathematics | 30 |
| Record Keeping | 60 |
| Spelling and Vocabulary | 30 |
| Typing I | 60 |
| Realistic Work Experience | |

## CASHIERS

**D.O.T. No. 211***

**Group Description**

This group includes occupations concerned with receiving and disbursing money in establishments other than banks. Most occupations involve use of adding machines, cash registers, and change makers.

Cashiers are designated by base titles and defined related titles according to their 6-digit code numbers as:

**D.O.T. No. 211.488**

Money Counter (amuse. & rec.)
Money Counter (ret. tr.; whole. tr.)

**Job Description**

Money Counter (amuse. & rec.). Counts and issues money to Parimutuel-Ticket Sellers and Parimutuel-Tickets Cashiers to conduct daily transactions at race track. Verifies records of workers accepting or paying out cash on wagers.

Money Counter (ret. tr.; whole. tr.). Counts and issues money for use in cash register: Makes change and cashes checks received from sales floor. Counts money in cash registers and balances cash against total sales indicated. Keeps records of cash sales and accrued taxes.

**Prerequisites**

### For Occupation

An occupationally significant combination of: Intellectual capacity and interest sufficient to acquire an understanding of systematic, numerical, recordkeeping and data-gathering procedures; ability to apply arithmetic principles and correct computational errors; attention to detail to avoid clerical errors; form perception; eye-hand coordination; and finger and manual dexterity.

### For Occupational Course of Study

The trainee should have skills and knowledge equivalent to those gained from the General Office Education Units suggested as pertinent to these occupations.

The local instructor may check the trainee's previously acquired abilities against the Standards of Achievement for the General Office Education Units in order to plan the curriculum for the trainee.

| Appropriate General Office Education Units | (Clock) Hours |
|---|---|
| Adding and Calculating Machines | 60 |
| Applied Office Mathematics | 30 |
| Business Behavior and Psychology | 30 |
| Business Communication and Language Skills | 45 |
| Indexing | 15 |
| Introduction to Office Services | 60 |
| Office Practice I - General | 60 |
| Principles of Mathematics | 30 |
| Record Keeping | 60 |
| Spelling and Vocabulary | 30 |
| Typing I | 60 |
| Realistic Work Experience | |

## TELLERS

| Group Description | D.O.T. No. 212* |
|---|---|

This group includes occupations concerned with disbursing and receiving money in a bank and recording transactions.

Tellers are designated by base titles and defined related titles according to their 6-digit code numbers as:

D.O.T. No. 212.138

Teller, Head (banking)

### Job Description

Teller, Head (banking). Supervises and coordinates activities of workers engaged in receiving and paying out money and keeping records of banking transactions: Assigns duties and work schedules to workers to insure efficient functioning of department. Trains employees in customer service and banking procedures. Approves checks for payment. Adjusts customer complaints. Examines Tellers' (banking) reports of daily transactions for accuracy. Consolidates and balances reports, using adding machine. Insures supply of money for bank's needs based on legal requirements and business demand.

### Prerequisites

#### For Occupation

An occupationally significant combination of: Ability to become thoroughly familiar with one or more clerical or sales activity; ability to plan ahead and to make assignments in a manner which promotes coordinated action and the completion of individual tasks according to established priorities; verbal ability to communicate effectively, orally and in writing, with superiors and subordinates; clerical aptitude to detect errors in correspondence, statistical tabulations, price lists, inventory records, and timetables; ability to motivate people to work cooperatively and conscientiously in activities which are frequently routine and repetitive; and ability to perform work done by subordinates and to train new employees when required.

Generally, the head teller in a bank serves in a supervisory capacity. Therefore, the instructor should read carefully the sections of this guide titled Supervisor, Clerical, and Managers and Officials. The specific occupation for which the trainee is being trained should determine the supervisory units to be studied.

#### For Occupational Course of Study

The trainee should have skills and knowledge equivalent to those gained from the General Office Education Units suggested as pertinent to this occupation.

The local instructor may check the trainee's previously acquired abilities against the Standards of Achievement for the General Office Education Units in order to plan the curriculum for the trainee.

| Appropriate General Office Education Units | (Clock) Hours |
|---|---|
| Adding and Calculating Machines | 60 |
| Applied Office Mathematics | 30 |
| Bookkeeping and Accounting I | 60 |
| Bookkeeping and Accounting II | 60 |
| Business Behavior and Psychology | 30 |
| Business Communication and Language Skills | 45 |
| Business Principles and Management | 60 |
| Correspondence and Report Writing | 30 |

| Appropriate General Office Education Units (Continued) | (Clock) Hours |
|---|---|
| Filing and Filing Systems | 60 |
| Indexing | 15 |
| Introduction to Office Services | 60 |
| Office Practice I - General | 60 |
| Office Practice II - General | 75 |
| Principles of Data Processing | 60 |
| Principles of Mathematics | 30 |
| Spelling and Vocabulary | 30 |
| Typing I | 60 |
| Realistic Work Experience | |

## TELLERS

**Group Description** **D.O.T. No. 212***

This group includes occupations concerned with disbursing and receiving money in a bank and recording transactions.

Tellers are designated by base titles and defined related titles according to their 6-digit code numbers as:

**D.O.T. No. 212.368**

Teller (banking)
Teller, Collection and Exchange (banking)
Teller, Note (banking)

**Job Description**

Teller (banking). Receives and pays out money, and keeps records of money and negotiable instruments involved in various bank transactions, performing any combination of following tasks: Receives checks and cash for deposit, verifies amounts, and examines checks for endorsements. Enters deposits in depositors' passbooks or issues receipts. Cashes checks and pays out money upon verification of signatures and customer balances. Places holds on accounts for uncollected funds. Orders supply of cash to meet daily needs, counts incoming cash, and prepares cash for shipment. May compute service charges, file checks, and accept utility bill payments. May photograph records, using microfilming device. May operate various office machines. May sell domestic exchange, travelers checks, and savings bonds. May open new accounts, and compute interest and discounts.

Teller, Collection and Exchange (banking). Accepts contracts, escrows, notes, bonds, mortgages, trade acceptances, checks, drafts, coupons, and other negotiable instruments for collection, exchange, and distribution of payment: Prepares or reviews collection forms, such as transmittal letters and advice records. Maintains file on items with due dates. Routes collection items for collection, records payments, and issues receipts. Computes and deducts or adds new principal, interest, and collection or discount charges. Credits or remits proceeds, and releases documents and instruments upon full payment. May collect and remit Federal withholding tax payments. May prepare and service escrow and trust accounts. May purchase and sell domestic and foreign exchange. May handle foreign collections and bills of exchange.

Teller, Note (banking). Accepts payments on loans, and maintains custody of securities: Accepts cash or checks and issues receipts. Computes principal, interest, and discounts, and posts entries to ledgers and payment books. Types loan forms and documents, such as notes, contracts, and loan renewals. Examines collateral for negotiability. Examines documents on secured loans to ascertain that necessary pledges, powers, chattel mortgages, and assignments are present. Surrenders note and collateral to customer upon payment of loan. May secure or renew insurance policies containing loss-payable clauses. May record deeds, mortgages, and other legal conveyances and instruments. May review daily market quotations, and compute current value of loan collateral held. May request borrowers to pledge additional collateral. May clip and collect coupons on securities held.

**Prerequisites**

For Occupation

An occupationally significant combination of: Ability to learn and apply bookkeeping and procedures; accuracy, rapidity, and attention to detail when exchanging money and recording transactions; manual and finger dexterity to operate calculating machines; tact, courtesy, honesty, a neat appearance, a good memory, and affability.

## For Occupational Course of Study

The trainee should have skills and knowledge equivalent to those gained from the General Office Education Units suggested as pertinent to these occupations.

The local instructor may check the trainee's previously acquired abilities against the Standards of Achievement for the General Office Education Units in order to plan the curriculum for the trainee.

| Appropriate General Office Education Units | (Clock) Hours |
|---|---|
| Adding and Calculating Machines | 60 |
| Applied Office Mathematics | 30 |
| Bookkeeping and Accounting I | 60 |
| Bookkeeping and Accounting II | 60 |
| Businss Behavior and Psychology | 30 |
| Business Communication and Language Skills | 45 |
| Business Law | 30 |
| Indexing | 15 |
| Introduction to Office Services | 60 |
| Office Practice I - General | 60 |
| Posting Machine Operation | 30 |
| Principles of Mathematics | 30 |
| Spelling and Vocabulary | 30 |
| Typing I | 60 |
| Realistic Work Experience | |

## AUTOMATIC DATA-PROCESSING-EQUIPMENT OPERATORS

Group Description D.O.T. No. 213*

This group includes occupations concerned with electronic and electro-mechanical machines that record, store, process, and transcribe data from punchcards, paper tape, magnetic tape, or other sources; solve mathematical engineering, or technical problems; keep records; or supply information. Includes machines that transcribe data to or from punchcards or tape for use in automatic data-processing equipment.

Automatic Data-Processing-Equipment Operators are designated by base titles and defined related titles according to their 6-digit code numbers as:

### D.O.T. No. 213.138

Supervisor, Computer Operations (clerical)
Supervisor, Machine-Records Unit (clerical)

### Job Description

Supervisor, Computer Operations (clerical). Supervises and coordinates activities of workers who operate electronic-data processing machines: Assigns personnel and schedules workflow to facilitate production. Directs training or trains personnel in operation of computers, and peripheral and off-line auxiliary equipment. Works with programming personnel in testing new and revised programs. Develops operating methods to process data, such as devising wiring diagrams for peripheral equipment control panels, and making minor changes in canned (standardized) programs or routines to modify output content or format. Directs insertion of program instructions and input data into computer, and observes operations. Aids operators in locating and overcoming error conditions. Makes minor program and input data revisions through computer console to maintain operations. Notifies programming and maintenance personnel if unable to locate and correct cause of error or failure. Revises operating schedule to adjust for delays. Prepares or reviews records and reports of production, operating, and down time. Recommends changes in programs, routines, and quality control standards. Consults with Manager Electronic Data Processing (profess. & kin.) about problems, such as including new program testing and operating runs in schedule and arranging for preventive shifts to assure continuity. May supervise personnel engaged in key punching, data typing, and tabulating.

Supervisor, Machine-Records Unit (clerical). Supervises and coordinates activities of workers engaged in keeping records and tabulating reports, using punchcards and office machines, such as tabulating, key-punch, and sorting machines: Schedules work assignments for operators depending on work load and personnel available. Sets up machines for new operations. Diagrams wiring connections according to machine function to be performed, following manual instructions. Wires control boards, making circuit connections according to wiring diagrams, or supervises workers who perform this function. Verifies accuracy of operators. Devises report forms and compiles reports on progress of work. Trains new employees in operation of key-punch, sorter, collator, interpreter, and other machines and equipment. Directs care and cleaning of machines. May make mechanical adjustments and repairs in an emergency. May assist administrative officials in planning new accounting methods and design of cards and forms for new clerical processes.

### Prerequisites

#### For Occupation

An occupationally significant combination of: Ability to become thoroughly familiar with one or more clerical or sales activity; ability to plan ahead and to make assignments in a manner which promotes coordinated action and the completion of individual tasks according to established priorities; ability to communicate effectively, orally and in writing, with superiors and subordinates; clerical aptitude to detect errors in correspondence, statistical tabulations, price lists, inventory records, and timetables; ability to motivate people to work cooperatively and conscientiously in activities which are frequently routine and repetitive; and ability to perform work done by subordinates and to train new employees when required.

Generally, trainees in these occupational categories will become supervisors of personnel or services. Therefore, the instructor should read carefully the sections of this guide titled Supervisor, Clerical, and Managers and Officials. The specific occupation for which the trainee is being trained should determine the supervisory units to be studied.

### For Occupational Course of Study

As a prerequisite for entering the occupational course, the trainee should have skills and knowledge equivalent to those gained from the General Office Education Units suggested as pertinent to these occupations.

The local instructor may check the trainee's previously acquired abilities against the Standards of Achievement for the General Office Education Units in order to plan the curriculum for the trainee. The instructor should read the U.S.O.E. publication number OE86010 for additional details about courses.

| Appropriate General Office Education Units | (Clock) Hours |
|---|---|
| Adding and Calculating Machines | 60 |
| Applied Office Mathematics | 30 |
| Bookkeeping and Accounting I | 60 |
| Bookkeeping and Accounting II | 60 |
| Business Behavior and Psychology | 30 |
| Business Communication and Language Skills | 45 |
| Business Principles and Management | 60 |
| Correspondence and Report Writing | 30 |
| Data Typing | 60 |
| Filing and Filing Systems | 60 |
| Indexing | 15 |
| Introduction to Office Services | 60 |
| Key-Punch Operation | 30 |
| Office Practic I - General | 60 |
| Office Practice II - General | 75 |
| Principles of Data Processing | 60 |
| Principles of Mathematics | 30 |
| Skill Typing | 60 |
| Spelling and Vocabulary | 30 |
| Tabulating Machine Operation | 90 |
| Tabulating Machine Wiring | 60 |
| Typing I | 60 |
| Realistic Work Experience | |

| Specialized Office Occupation Units | |
|---|---|
| Data Processing Library Training | 45 |

## DATA PROCESSING LIBRARY TRAINING (DPL)

### Hours Required

Class: 1 hour daily    Total: 45 hours

### Description

This course emphasizes the fundamental skills and knowledge necessary for the proper storage and handling of data processing tapes, cards, and other records. It stresses the need for library record systems that properly organize and control these materials.

### Teaching Tips

As many different offices as possible should be visited in order for students to see various systems and techniques in operation. Emphasis should be placed on the responsibilities of a librarian.

### Topic Outline

I. Introduction to the Data Processing Library
II. Use of Data Processing Media
III. Physical facilities
IV. Storing Tapes, Cards, and Materials
V. Library Records
VI. Classifying Materials

### TOPIC I - INTRODUCTION TO THE DATA PROCESSING LIBRARY

A. What the library is

B. Its importance and function

C. The job of the librarian

### TOPIC II - USE OF DATA PROCESSING MEDIA

A. How cards are used

B. How magnetic tapes are used

C. Use of punched paper tape

### TOPIC III - PHYSICAL FACILITIES

A. Types of storage files

B. Supplies

### TOPIC IV - STORING TAPES, CARDS, AND MATERIALS

A. Handling magnetic tape

B. Handling cards

C. Handling punched paper tape

D. Temperature and humidity

E. Packing and shipping

F. Inspecting tapes and cards

### TOPIC V - LIBRARY RECORDS

A. Need for accurate record system

B. Types of systems

C. Inventory records

D. Issue and receipt of materials

E. Control

### TOPIC VI - CLASSIFYING MATERIALS

A. Purpose of classification

B. By media

C. By content

D. Control panels

### Texts and Other Teaching Materials

From the following suggested texts and materials (or other equivalent commercially available material), select trainee and teacher materials for use in this unit. Additional references are listed in Appendix B.

IBM Corporation. Care and Handling of Magnetic Tape. Item No. 520-1715.

_______________. Testing and Care of IBM Cards. Item No. 520-1598.

Wanous, S. J., and Wanous, E. E. Automation Office Practice. Cincinnati, Ohio: South-Western Publishing Co., Inc., 1964.

# AUTOMATIC DATA-PROCESSING-EQUIPMENT OPERATORS

## Group Description

D.O.T. No. 213*

This group includes occupations concerned with electronic and electro-mechanical machines that record, store, process, and transcribe data from punchcards, paper tape, magnetic tape, or other sources; solve mathematical, engineering, or technical problems; keep records; or supply information. Includes machines that transcribe data to or from punchcards or tape for use in automatic data-processing equipment.

Automatic Data-Processing-Equipment Operators are designated by base titles and defined related titles according to their 6-digit code numbers as:

## D.O.T. No. 213.382

Card-Tape-Converter Operator (clerical)
Computer-Peripheral-Equipment Operator (clerical)
Digital-Computer Operator (clerical)
High-Speed-Printer Operator (clerical)

## Job Description

Card-Tape-Converter Operator (clerical). Operates machines that automatically transcribe data from punchcards to reels of tape, or from tape to punched cards, for use in automatic data-processing equipment: Wires plugboard to make circuit connections according to prepared diagrams and to print data in desired format. Mounts reels of tape on spindles, places stacks of punchcards in hopper, and starts reading and recording machines. Observes operation of machines to detect malfunctioning. Marks identification on reels of tape or drawers of punched cards at end of run, and keeps control sheet. May transcribe coded program instructions for electronic data-processing operation onto tape, using electric typewriter equipped with special keyboard.

Computer-Peripheral-Equipment Operator (clerical). Operates on-line or off-line peripheral machines, according to instructions, to transfer data from one form to another, print output, and read data into and out of digital computer: Mounts and positions materials, such as reels of magnetic or paper tape onto spindles, decks of cards in hoppers, bank checks in magnetic ink reader-sorter, notices in optical scanner, or output forms and carriage tape in printing devices. Sets guides, keys, and switches according to oral instructions or run book to prepare equipment for operation. Selects specified wired control panels or wires panels according to diagrams and inserts them into machines. Presses switches to start off-line machines, such as card tape converters, or to interconnect on-line equipment, such as tape or card computer input and output devices, and high speed printer or other output recorder. Observes materials for creases, tears, or printing defects and watches machine and error lights to detect machine malfunction. Removes faulty materials and notifies supervisor of machine stoppage or error. Unloads and labels card or tape input and output and places them in storage or routes them to library. Separates and sorts printed output forms, using decollator, to prepare them for distribution. May operate punchcard tabulating machines, such as sorters and collators.

Digital-Computer Operator (clerical). Monitors and controls electronic digital computer to process business, scientific, engineering, or other data, according to operating instructions: Sets control switches on computer and peripheral equipment, such as external memory, data communicating, synchronizing, input, and output recording, or display devices, to integrate and operate equipment according to program, routines, subroutines, and data requirements specified in written operating instructions. Selects and loads input and output units with materials, such as tapes or punch cards, and printout forms, for operating runs or oversees operators of peripheral equipment who perform these functions. Moves switches to clear system and start operation of equipment. Observes machines and control panel on computer console for error lights, verification printouts and error messages, and machine stoppage or faulty output.

Types alternate commands into computer console according to predetermined instructions to correct error or failure and resume operations. Notifies supervisor of errors or equipment stoppage. Clears unit at end of operating run and reviews schedule to determine next assignment. Records operating and down time. Wires control panels of peripheral equipment. May control computer to provide input or output service for another computer under instructions from operator of that unit.

High-Speed-Printer Operator (clerical). Operates high speed printing machine to convert scientific, engineering, or business information previously recorded on reels of tape into printed records: Wires plugboard, making circuit connections according to prepared diagram, to obtain specified data in desired format. Mounts tape reels on spindles and positions paper stock, on which data are to be recorded, in printer. Starts machine, and observes printing for legibility and format and panel lights for indications of computational errors. Removes printed sheets from machine and stores reels of tape. May transfer data from punchcards to reels of magnetic tape or from tape to cards. May transcribe coded program instruction for electronic data-processing operation onto magnetic tape, using electric typewriter equipped with special keyboard.

## Prerequisites

### For Occupation

An occupationally significant combination of: The ability and willingness to follow instructions in performing work of a routine, organized nature; attention to detail and good reading comprehension in order to avoid clerical errors; form and spatial perception, eye-hand coordination, and finger and manual dexterity for using machines; and an inclination toward working with machines.

### For Occupational Course of Study

The trainee should have skills and knowledge equivalent to those gained from the General Office Education Units suggested as pertinent to these occupations.

The local instructor may check the trainee's previously acquired abilities against the Standards of Achievement for the General Office Education Units in order to plan the curriculum for the trainee. For additional details about courses in data processing the instructor will want to refer to U.S.O.E. publication OE86010.

| Appropriate General Office Education Units | (Clock) Hours |
|---|---|
| Applied Office Mathematics | 30 |
| Bookkeeping and Accounting I | 60 |
| Bookkeeping and Accounting II | 60 |
| Business Behavior and Psychology | 30 |
| Business Communication and Language Skills | 45 |
| Data Typing | 60 |
| Indexing | 15 |
| Introduction to Office Services | 60 |
| Office Practice I - General | 60 |
| Principles of Data Processing | 60 |
| Principles of Mathematics | 30 |
| Skill Typing | 60 |
| Spelling and Vocabulary | 30 |
| Tabulating Machine Operation | 90 |
| Tabulating Machine Wiring | 60 |
| Typing I | 60 |
| Realistic Work Experience | |

## AUTOMATIC DATA-PROCESSING-EQUIPMENT OPERATORS

### Group Description

D.O.T. No. 213*

This group includes occupations concerned with electronic and electro-mechanical machines that record, store, process, and transcribe data from punchcards, paper-tape, magnetic tape, or other sources; solve mathematical, engineering, or technical problems; keep records; or supply information. Includes machines that transcribe data to or from punchcards or tape for use in automatic data-processing equipment.

Automatic Data-Processing-Equipment Operators are designated by base titles and defined related titles according to their 6-digit code numbers as:

D.O.T. No. 213.582

Key-Punch Operator (clerical)

### Job Description

Key-Punch Operator (clerical). Operates alphabetic and numeric key-punch machine, similar in operation to electric typewriter, to transcribe data from source material onto punchcards and produce prepunched data: Attaches skip bar to machine and previously punched program card around machine drum to control duplication and spacing of constant data. Loads machine with decks of punchcards. Moves switches and depresses keys to select automatic or manual duplication and spacing, select alphabetic or numeric punching, and transfer cards through machine stations. Depresses keys to transcribe new data in prescribed sequence from source material into perforations on card. Inserts previously punched card into card gage to verify registration of punches. Observes machine to detect faulty feeding, positioning, ejecting, duplicating, skipping, punching, or other mechanical malfunctions and notifies supervisor. Removes jammed cards, using prying knife. May tend machines that automatically sort, merge, or match punchcards into specified groups.

### Prerequisites

#### For Occupation

An occupationally significant combination of: The ability and willingness to follow instructions in performing work of a routine, organized nature; attention to detail and good reading comprehension in order to avoid clerical errors; form and spatial perception, eye-hand coordination, and finger and manual dexterity for using machines; and an inclination toward working with machines.

#### For Occupational Course of Study

The trainee should have skills and knowledge equivalent to those gained from the General Office Education Units suggested as pertinent to this occupation.

The local instructor may check the trainee's previously acquired abilities against the Standards of Achievement for the General Office Education Units in order to plan the curriculum for the trainee.

| Appropriate General Office Education Units | (Clock) Hours |
|---|---|
| Business Behavior and Psychology | 30 |
| Business Communication and Langauge Skills | 45 |
| Data Typing | 60 |
| Indexing | 15 |
| Introduction to Office Services | 60 |
| Key-Punch Operation | 30 |
| Office Practice I - General | 60 |
| Principles of Data Processing | 60 |

| Appropriate General Office Education Units (Continued) | (Clock) Hours |
|---|---|
| Principles of Mathematics | 30 |
| Record Keeping | 60 |
| Skill Typing | 60 |
| Seplling and Vocabulary | 30 |
| Typing I | 60 |
| Realistic Work Experience | |

## AUTOMATIC DATA-PROCESSING-EQUIPMENT OPERATORS

### Group Description

D.O.T. No. 213*

This group includes occupations concerned with electronic and electro-mechanical machines that record, store, process, and transcribe data from punchcards, paper tape, magnetic tape, or other sources; solve mathematical, engineering, or technical problems; keep records; or supply information. Includes machines that transcribe data to or from punchcards or tape for use in automatic data-processing equipment.

Automatic Data-Processing Equipment Operators are designated by base titles and defined related titles according to their 6-digit code numbers as:

### D.O.T. No. 213.588

Data Typist (clerical)
Verifier Operator (clerical)

### Job Description

Data Typist (clerical). Converts alphabetic, numeric, and symbolic data into coded form on punchcards or tapes: Loads decks of punchcards or reels of magnetic or paper tape into machine. Moves switches to set up machine and auxiliary equipment to produce desired cards or tapes. Types computer programs and input data such as specified items from business forms, which the machine converts to holes or magnetic impulses on cards or tapes. Proofreads typed copy to identify errors, and retypes copy or activates correctional devices built into machine. May insert tape or cards into reader attachment for automatic duplication of business correspondence or records.

Verifier Operator (clerical). Verifies accuracy of data punched on tabulating cards, using keyboard-type machine that rejects incorrectly punched cards: Places punched cards in machine. Depresses keys in same sequence required to punch cards. Removes incorrectly punched cards as indicated by light or by key that will not depress. May punch corrected card, using key-punch machine.

### Prerequisites

#### For Occupation

An occupationally significant combination of: Attentiveness to detail to avoid errors in transferring data from records or draft copies; motor coordination and finger dexterity; adaptibility for repetitious work; form perception; and willingness to work under direction of others.

#### For Occupational Course of Study

As a prerequisite for entering the occupational course the trainee should have skills and knowledge equivalent to those gained from the General Office Education Units suggested as pertinent to these occupations.

The local instructor may check the trainee's previously acquired abilities against the Standards of Achievement for the General Office Education Units in order to plan the curriculum for the trainee.

| Appropriate General Office Education Units | (Clock) Hours |
|---|---|
| Business Behavior and Psychology | 30 |
| Business Communication and Language Skills | 45 |
| Data Typing | 60 |
| Indexing | 15 |
| Introduction to Office Services | 60 |

| Appropriate General Office Education Units (Continued) | (Clock) Hours |
|---|---|
| Key-Punch Operation | 30 |
| Office Practice I - General | 60 |
| Principles of Data Processing | 60 |
| Principles of Mathematics | 30 |
| Record Keeping | 60 |
| Skill Typing | 60 |
| Spelling and Vocabulary | 30 |
| Typing I | 60 |
| Realistic Work Experience | |

## AUTOMATIC DATA-PROCESSING-EQUIPMENT OPERATORS

Group Description D.O.T. No. 213*

This group includes occupations concerned with electronic and electro-mechanical machines that record, store, process, and transcribe data from punchcards, paper tape, magnetic tape, or other sources; solve mathematical, engineering, or technical problems; keep records; or supply information. Includes machines that transcribe data to or from punchcards or tape for use in automatic data-processing equipment.

Automatic Data-Processing-Equipment Operators are designated by base titles and defined related titles according to their 6-digit code numbers as:

D.O.T. No. 213.782

Tabulating-Machine Operator (clerical)

### Job Description

Tabulating-Machine Operator (clerical). Operates machine that processes data from tabulating cards into printed records: Wires and installs tabulating-machine plugboard (control panel), or inserts prewired control panel, using wrenches and screwdriver. Positions stack of cards to be tabulated and starts machine. Observes machine for malfunctioning and removes jammed cards. Routes processed cards to next work station. May tend machines that perform individual functions, such as sorting, interpreting, reproducing, and collating. May maintain files of punched cards.

### Prerequisites

#### For Occupation

An occupationally significant combination of: Ability to understand the functional nature of machines and to visualize the relationship of parts; the ability to perceive differences in shapes, textures, and surfaces; manual and finger dexterity; the ability to coordinate movement of eyes, hands, and feet; and the intelligence to understand and follow written and oral instructions.

#### For Occupational Course of Study

The trainee should have skills and knowledge equivalent to those gained from the General Office Education Units suggested as pertinent to this occupation.

The local instructor may check the trainee's previously acquired abilities against the Standards of Achievement for the General Office Education Units in order to plan the curriculum for the trainee.

| Appropriate General Office Education Units | (Clock) Hours |
|---|---|
| Business Behavior and Psychology | 30 |
| Business Communication and Language Skills | 45 |
| Indexing | 15 |
| Introduction to Office Services | 60 |
| Office Practice I - General | 60 |
| Principles of Data Processing | 60 |
| Principles of Mathematics | 30 |
| Record Keeping | 60 |
| Spelling and Vocabulary | 30 |
| Tabulating Machine Operation | 90 |
| Tabulating Machine Wiring | 60 |
| Typing I | 60 |
| Realistic Work Experience | |

## AUTOMATIC DATA-PROCESSING-EQUIPMENT OPERATORS

**Group Description** — **D.O.T. No. 213***

This group includes occupations concerned with electronic and electro-mechanical machines that record, store, process, and transcribe data from punchcards, paper tape, magnetic tape, or other sources; solve mathematical, engineering, or technical problems; keep records; or supply information. Includes machines that transcribe data to or from punchcards or tape for use in automatic data-processing equipment.

Automatic Data-Processing-Equipment Operators are designated by base titles and defined related titles according to their 6-digit code numbers as:

### D.O.T. No. 213.885

### Sorting-Machine Operator (clerical)

### Job Description

Sorting-Machine Operator (clerical). Tends machine that automatically sorts perforated tabulating cards into specified groups: Riffles cards to prevent over feeding and jamming, and places cards in feedbox. Pushes buttons on sorting control panel to regulate sorting process. Starts machine and sights through holes to verify sorting. Removes sorted cards from bins. Removes jammed cards to clear machine. May reproduce damaged cards on key-punch machine. May operate tabulating machine, verifying machine, or switchboard.

### Prerequisites

#### For Occupation

An occupationally significant combination of: An inclination toward working with machinery and equipment; the ability and willingness to learn and follow instructions; ease in adjusting to routine, repetitive work; and capacity for sustained attention to functioning of machines or equipment.

#### For Occupational Course of Study

The trainee should have skills and knowledge equivalent to those gained from the General Office Education Units suggested as pertinent to this occupation.

The local instructor may check the trainee's previously acquired abilities against the Standards of Achievement for the General Office Education Units in order to plan the curriculum for the trainee.

| Appropriate General Office Education Units | (Clock) Hours |
|---|---|
| Business Behavior and Psychology | 30 |
| Business Communication and Language Skills | 45 |
| Indexing | 15 |
| Introduction to Office Services | 60 |
| Key-Punch Operation | 30 |
| Office Practice I - General | 60 |
| Principles of Data Processing | 60 |
| Principles of Mathematics | 30 |
| Record Keeping | 60 |
| Skill Typing | 60 |
| Spelling and Vocabulary | 30 |
| Tabulating Machine Operation | 90 |
| Typing I | 60 |
| Realistic Work Experience | |

# BILLING MACHINE OPERATIONS
## (Clerical)

D.O.T. No. 214.488

### Job Description

Prepares statements, bills, and invoices to be sent to customers, itemizing account customers owe, using billing machines with or without computing devices; Inserts blank billing sheets in machine and sets carriage. Transcribes data from office records, such as customer's name, address, and items purchased or services rendered. Calculates totals, net amounts, and discounts by addition, subtraction, and multiplication, and records computations. May make computations on separate adding and calculating machines.

### Prerequisities

#### For Occupation

An occupationally significant combination of: Intellectual capacity and interest sufficient to acquire an understanding of systematic, numerical, recordkeeping and data-gathering procedures; ability to apply arithmetic principles and correct computational errors; attention to detail to avoid clerical errors; form perception; eye-hand coordination; and finger and manual dexterity.

#### For Occupational Course of Study

The trainee should have skills and knowledge equivalent to those gained from the General Office Education Units suggested as pertinent to this occupation.

The local instructor may check the trainee's previously acquired abilities against the Standards of Achievement for the General Office Education Units in order to plan the curriculum for the trainee. Due to the variety of billing machines in use in business, it is suggested that the trainee be instructed in the use of a particular machine during the work experience portion of his program.

| Appropriate General Office Education Units | (Clock) Hours |
|---|---|
| Adding and Calculating Machines | 60 |
| Applied Office Mathematics | 30 |
| Business Behavior and Psychology | 30 |
| Business Communication and Language Skills | 45 |
| Indexing | 15 |
| Introduction to Office Services | 60 |
| Office Practice I - General | 60 |
| Principles of Mathematics | 30 |
| Record Keeping | 60 |
| Skill Typing | 60 |
| Spelling and Vocabulary | 30 |
| Typing I | 60 |
| Realistic Work Experience | |

## BOOKKEEPING-MACHINE OPERATORS

**Group Description** **D.O.T. No. 215***

This group includes occupations concerned with operating bookkeeping machines to copy and post data, make computations, and/or compile records of transactions.

Bookkeeping-Machine Operators are designated by base titles and defined related titles according to their 6-digit code numbers as:

**D.O.T. No. 215.388**
Bookkeeping-Machine Operator (clerical) I
Bookkeeping-Machine Operator (clerical) II

### Job Description

Bookkeeping-Machine Operator (clerical) I. Records complete set of records of financial transactions of establishment in same manner as Bookkeeper I, using bookkeeping machine: Sorts documents to be posted, such as checks and debit and credit items. Selects and places bookkeeping form on writing surface of machine, and sets carriage. Depresses keys of machine keyboard to record identifying headings and data, and to calculate and post totals, net amounts, and other computations. Verifies entries and summarizes and balances totals to insure accuracy. Prepares periodic trial balances and other statistical information as required. May operate other office machines such as adding and calculating machines.

Bookkeeping-Machine Operator (clerical) II. Keeps one phase or section of complete set of records pertaining to business transactions of establishment in same manner as Bookkeeper II, using bookkeeping machine: Selects and places bookkeeping form on writing surface of machine. Depresses keys of machine keyboard to record data.

### Prerequisites

#### For Occupation

An occupationally significant combination of: Intellectual capacity and interest sufficient to acquire an understanding of systematic, numerical, recordkeeping and data-gathering procedures; ability to apply arithmetic principles and correct computational errors; attention to detail to avoid clerical errors; form perception; eye-hand coordination; and finger and manual dexterity.

#### For Occupational Course of Study

The trainee should have skills and knowledge equivalent to those gained from the General Office Education Units suggested as pertinent to these occupations.

The local instructor may check the trainee's previously acquired abilities against the Standards of Achievement for the General Office Education Units in order to plan the curriculum for the trainee. Due to the variety of bookkeeping machines in use in business, it is suggested that the trainee be instructed "on the job" in the use of a particular machine.

| Appropriate General Office Education Units | (Clock) Hours |
|---|---|
| Adding and Calculating Machines | 60 |
| Applied Office Mathematics | 30 |
| Bookkeeping and Accounting I | 60 |
| Bookkeeping and Accounting II | 60 |
| Business Behavior and Psychology | 30 |
| Business Communication and Language Skills | 45 |
| Indexing | 15 |
| Introduction to Office Services | 60 |
| Office Practice I - General | 60 |

| Appropriate General Office Education Units (Continued) | (Clock) Hours |
|---|---|
| Posting Machine Operation | 30 |
| Principles of Mathematics | 30 |
| Spelling and Vocabulary | 30 |
| Typing I | 60 |
| Realistic Work Experience | |

## BOOKKEEPING-MACHINE OPERATORS

**Group Description** **D.O.T. No. 215***

This group includes occupations concerned with operating bookkeeping machines to copy and post data, make computations, and/or compile records of transactions.

Bookkeeping-Machine Operators are designated by base titles and defined related titles according to their 6-digit code numbers as:

**D.O.T. No. 215.488**

Pay-Roll Clerk (clerical)

**Job Description**

Pay-Roll Clerk (clerical). Computes wages and posts wage data to payroll records: Computes earnings from time sheets and work tickets, using calculator. Operates posting machine to compute and subtract deductions, such as income tax withholdings, social security payments, insurance, credit-union payments, and bond purchases. Enters net wages on earning record card, check, check stub, and payroll sheet. May prepare annual reports of earnings and income tax deductions. May keep records of sick leave pay and nontaxable wages. May prepare and distribute pay envelopes. May compute wages for employees working on bonus, commission, or piecework systems.

**Prerequisites**

### For Occupation

An occupationally significant combination of: Intellectual capacity and interest sufficient to acquire an understanding of systematic, numerical, recordkeeping and data-gathering procedures; ability to apply arithmetic principles and correct computational errors; attention to detail to avoid clerical errors; form perception; eye-hand coordination; and finger and manual dexterity.

### For Occupational Course of Study

As a prerequisite for entering the occupational course the trainee should have skills and knowledge equivalent to those gained from the General Office Education Units suggested as pertinent to this occupation.

The local instructor may check the trainee's previously acquired abilities against the Standards of Achievement for the General Office Education Units in order to plan the curriculum for the trainee.

| Appropriate General Office Education Units | (Clock) Hours |
|---|---|
| Adding and Calculating Machines | 60 |
| Applied Office Mathematics | 30 |
| Bookkeeping and Accounting I | 60 |
| Bookkeeping and Accounting II | 60 |
| Business Behavior and Psychology | 30 |
| Business Communication and Language Skills | 45 |
| Indexing | 15 |
| Introduction to Office Services | 60 |
| Office Practice I - General | 60 |
| Payroll Records | 30 |
| Posting Machine Operation | 30 |
| Principles of Mathematics | 30 |
| Spelling and Vocabulary | 30 |
| Typing I | 60 |
| Realistic Work Experience | |

## COMPUTING-MACHINE OPERATORS

**Group Description** **D. O. T. No. 216***

This group includes occupations concerned with operating adding or calculating machines to perform arithmetic operations.

Computing-Machine Operators are designated by base titles and defined related titles according to their 6-digit code numbers as:

**D. O. T. No. 216.388**

Balance Clerk (clerical)
Bank-Reconciliation Clerk (clerical)

**Job Description**

Balance Clerk (clerical). Calculates, verifies, and compares balances of one record book with prior balances of same or other record books: Adds debit and credit items on ledger and journal sheets, using adding machine. Compares totals and subtracts to obtain balance. Examines individual items for errors in computation or transposition of numerals. Corrects errors or lists those to be corrected. May operate key punch machine to post entries on tabulating cards.

Bank-Reconciliation Clerk (clerical). Reconciles total shown on company's bank ledger with total shown on company's bank statement: Lists outstanding checks, deposits not yet posted by bank, and service charges not yet posted on company records, and computes adjusted totals, using adding machine.

**Prerequisites**

### For Occupation

An occupationally significant combination of: Intellectual capacity and interest sufficient to acquire an understanding of systematic, numerical, recordkeeping and data-gathering procedures; ability to apply arithmetic principles and correct computational errors; attention to detail to avoid clerical errors; form perception; eye-hand coordination; and finger and manual dexterity.

### For Occupation Course of Study

The trainee should have skills and knowledge equivalent to those gained from the General Office Education Units suggested as pertinent to these occupations.

The local instructor may check the trainee's previously acquired abilities against the Standards of Achievement for the General Office Education Units in order to plan the curriculum for the trainee.

| Appropriate General Office Education Units | (Clock) Hours |
|---|---|
| Adding and Calculating Machines | 60 |
| Applied Office Mathematics | 30 |
| Business Behavior and Psychology | 30 |
| Business Communication and Language Skills | 45 |
| Indexing | 15 |
| Introduction to Office Services | 60 |
| Key-Punch Operation | 30 |
| Office Practice I - General | 60 |
| Principles of Mathematics | 30 |
| Record Keeping | 60 |
| Skill Typing | 60 |
| Spelling and Vocabulary | 30 |
| Typing I | 60 |
| Realistic Work Experience | |

## COMPUTING-MACHINE OPERATORS

**Group Description** **D. O. T. No. 216***

This group includes occupations concerned with operating adding or calculating machines to perform arithmetic operations.

Computing-Machine Operators are designated by base titles and defined related titles according to their 6-digit code numbers as:

**D. O. T. No. 216.488**

Adding-Machine Operator (clerical)
Audit-Machine Operator (clerical)
Calculating-Machine Operator (clerical)
Policy-Value Calculator (insurance)
Tester, Recording and Checking (nonfer. metal alloys)
Food Checker (hotel & rest.) I
Food Checker (hotel & rest.) II
Food Controller (hotel & rest.)
Interline Clerk (r.r. trans.)

### Job Description

Computing-Machine Operators with a D. O. T. No. 216.488 perform similar jobs, but the type of business establishments in which they work may be different. Computes and records statistical, and other numerical data, using machine that automatically performs mathematical processes, such as addition, subtraction, multiplication, division, and extraction of roots. Presses keys and moves levers to feed data into machine. Posts results to records, such as inventories, payrolls, invoices, and summary sheets. May verify computations made by other workers.

### Prerequisites

#### For Occupation

An occupationally significant combination of: Intellectual capacity and interest sufficient to acquire an understanding of systematic, numerical, recordkeeping and data-gathering procedures; ability to apply arithmetic principles and correct computational errors; attention to detail to avoid clerical errors; form perception; eye-hand coordination; and finger and manual dexterity.

#### For Occupational Course of Study

The trainee should have skills and knowledge equivalent to those gained from the General Office Education Units suggested as pertinent to these occupations.

The local instructor may check the trainee's previously acquired abilities against the Standards of Achievement for the General Office Education Units in order to plan the curriculum for the trainee.

| Appropriate General Office Education Units | (Clock) Hours |
|---|---|
| Adding and Calculating Machines | 60 |
| Applied Office Mathematics | 30 |
| Business Behvarior and Psychology | 30 |
| Business Communication and Language Skills | 45 |
| Indexing | 15 |
| Introduction to Office Services | 60 |
| Office Practice I - General | 60 |
| Principles of Mathematics | 30 |

| Appropriate General Office Education Units (Continued) | (Clock) Hours |
|---|---|
| Record Keeping | 60 |
| Spelling and Vocabulary | 30 |
| Typing I | 60 |
| Realistic Work Experience | |

## COMPUTING-MACHINE OPERATORS

**Group Description** **D.O.T. No. 216***

This group includes occupations concerned with operating adding or calculating machines to perform arithmetic operations.

Computing-Machine Operators are designated by base titles and defined related titles according to their 6-digit code numbers as:

**D.O.T. No. 216.588**

Food Tabulator, Cafeteria (hotel & rest.)
Integrator Operator (clerical)

**Job Description**

Food Tabulator, Cafeteria (hotel & rest.). Keeps record of all food items sold: Observes items on customer's tray. Presses key corresponding to items on tabulating or multicounting machine which registers each item. May calculate cash receipts by multiplying total of each item by selling price and adding results.

Integrator Operator (clerical). Operates special computing machine equipped with pen attachments to compute gas volume that flows through meter, using meter charts. Positions chart on chart plate. Starts machine to revolve chart and actuate computing mechanism. Pulls levers to guide pens along static pressure and volume curve lines. Removes chart and records computation on back of chart.

**Prerequisites**

### For Occupation

An occupationally significant combination of: Attentiveness to detail to avoid errors in transferring data from records or draft copies; motor coordination and finger dexterity; adaptibility for repetitious work; form perception; and willingness to work under direction of others.

### For Occupational Course of Study

The trainee should have skills and knowledge equivalent to those gained from the General Office Education Units suggested as pertinent to these occupations.

The local instructor may check the trainee's previously acquired abilities against the Standards of Achievement for the General Office Education Units in order to plan the curriculum for the trainee.

| Appropriate General Office Education Units | (Clock) Hours |
|---|---|
| Adding and Calculating Machines | 60 |
| Business Behavior and Psychology | 30 |
| Business Communication and Lanaguage Skills | 45 |
| Indexing | 15 |
| Introduction to Office Services | 60 |
| Office Practice I - General | 60 |
| Principles of Mathematics | 30 |
| Record Keeping | 60 |
| Spelling and Vocabulary | 30 |
| Typing I | 60 |
| Realistic Work Experience | |

## ACCOUNT-RECORDING-MACHINE OPERATORS
## n.e.c.

Group Description D. O. T. No. 217*

This group includes occupations, not elsewhere classified, concerned with operating machines to keep quantitative records and accounts.

Account-Recording-Machine Operators are designated by base titles and defined related titles according to their 6-digit code numbers as:

D. O. T. No. 217.388

Proof-Machine Operator (banking)
Transit Clerk (banking)

### Job Description

Proof-Machine Operator (banking). Sorts, records, and proves records of bank transactions, such as checks, deposit slips, and withdrawal slips, using proof machine: Depresses keys to sort items into various categories and to list items simultaneously on master control tape and individual batch tapes. Positions items in machine to be endorsed and grouped automatically or manually sorts items. Totals tapes and locates, corrects, and records errors. Attaches tapes to sorted batches and prepares recapitulation sheet. Proves deposits, checks debits, and credits listed on batch sheet.

Transit Clerk (banking). Sorts, records, proves, and prepares for mailing all transit items on out-of-city banks to insure correct routing and prompt collection: Sorts items, such as checks, drafts, and credit letters, according to drawee bank, endorsing them manually or by machine. Inspects checks over a specified amount for regularity, to note endorsers, or to determine if uncollected funds shall be held. Lists and totals items to be collected from correspondent banks and Federal Reserve bank, using transit machine. Photographs transit letters, outgoing checks, and machines tapes, using Recordak machine, to keep record of all transit items and their destination. Lists transit items, using adding machine or calculator. Compares total on list with total on proof machine to prove daily transactions.

### Prerequisites

#### For Occupation

An occupationally significant combination of: Intellectual capacity and interest sufficient to acquire an understanding of systematic, numerical, recordkeeping and data-gathering procedures; ability to apply arithmetic principles and correct computational errors; attention to detail to avoid clerical errors; form perception; eye-hand coordination; and finger and manual dexterity.

#### For Occupational Course of Study

Trainee should have skills and knowledge equivalent to those gained from the General Office Education Units suggested as pertinent to these occupations.

The local instructor may check the trainee's previously acquired abilities against the Standards of Achievement for the General Office Education Units in order to plan the curriculum for the trainee.

Due to the specialty of these occupations and the variety of machines available for use in these occupations, it is suggested that the trainee receive "on the job" training on the machines he will use in the employing office.

| Appropriate General Office Education Units | (Clock) Hours |
|---|---|
| Adding and Calculating Machines | 60 |
| Applied Office Mathematics | 30 |

| Appropriate General Office Education Units (Continued) | (Clock) Hours |
|---|---|
| Business Behavior and Psychology | 30 |
| Business Communication and Language Skills | 45 |
| Indexing | 15 |
| Introduction to Office Services | 60 |
| Office Practice I - General | 60 |
| Principles of Mathematics | 30 |
| Record Keeping | 60 |
| Spelling and Vocabulary | 30 |
| Typing I | 60 |
| Realistic Work Experience | |

# ACCOUNT-RECORDING-MACHINE OPERATORS
## n.e.c.

**Group Description** **D. O. T. No. 217***

This group includes occupations, not elsewhere classified, concerned with operating machine to keep quantitative records and accounts.

Account-Recording-Machine Operators are designated by base titles and defined related titles according to their 6-digit code numbers as:

**D. O. T. No. 217.885**

Bursting-Machine Operator (clerical)

### Job Description

Bursting-Machine Operator (clerical). Tends machine that separates, trims, and addresses accounting notices and receipt forms: Turns knobs to adjust machine to address and separate forms. Turns roller to position pins that grip continous forms. Starts machine. Examines emerging forms for correct imprinting, trimming, and separation. Packs stacked forms into boxes and labels boxes for mailing. Changes machine ribbon.

### Prerequisites

#### For Occupation

An occupationally significant combination of: An inclination toward working with machinery and equipment; and ability and willingness to learn and follow instructions; ease in adjusting to routine, repetitive work; and capacity for sustained attention to functioning of machines or equipment.

#### For Occupational Course of Study

The trainee should have skills and knowledge equivalent to those gained from the General Office Education Units suggested as pertinent to this occupation.

The local instructor may check the trainee's previously acquired abilities against the Standards of Achievement for the General Office Education Units in order to plan the curriculum for the trainee.

Due to the specialty of this occupation and the variety of machines available for use in this occupation, it is suggested that the trainee receive "on the job" training on the machines he will use in the employing office.

| Appropriate General Office Education Units | (Clock) Hours |
|---|---|
| Business Behavior and Psychology | 30 |
| Business Communication and Language Skills | 45 |
| Indexing | 15 |
| Introduction to Office Services | 60 |
| Principles of Mathematics | 30 |
| Record Keeping | 60 |
| Spelling and Vocabulary | 30 |
| Typing I | 60 |
| Realistic Work Experience | |

# COMPUTING AND ACCOUNT-RECORDING OCCUPATIONS
n.e.c.

## Group Description

D. O. T. No. 219*

This group includes occupations, not elsewhere classified, concerned with systematizing information about transactions and activities into accounts and quantitative records, and paying and receiving money.

Computing and Account-Recording Occupations are designated by base titles and defined related titles according to their 6-digit code numbers as:

## D. O. T. No. 219.138

Cost-and-Sales Record Supervisor (light, heat, & power)
Crew Scheduler, Chief (air trans.)
Field Cashier (const.)
Manager, Statement Clerks (banking)
Pay-Roll Clerk, Chief (clerical)
Statistician, Electric Power (light, heat, & power)
Superintendent, Pay-Roll Division (light, heat, & power)
Supervisor, Accounts Receivable (light, heat, & power)
Timekeeper, Chief (clerical)

## Job Description

Occupations with a D.O.T. No. 219.138 are concerned with the supervision and coordination of workers engaged in jobs that require systematizing information about transactions and activities into accounts and quantitative records and in many cases paying and receiving money. Determines work procedures. Issues written and oral orders or instructions. Assigns duties to workers and examines work for exactness and neatness. Prepares composite reports from individual reports of subordinates. Maintains harmony among workers. Adjusts errors and complaints. May perform essentially same duties as other workers, or assist subordinates in performing duties. May keep time reports and other personnel records. May employ, train, and discharge workers.

## Prerequisites

### For Occupation

An occupationally significant combination of: Ability to become thoroughly familiar with one or more clerical or sales activity; ability to plan ahead and to make assignments in a manner which promotes coordinated action and the completion of individual tasks according to established priorities; verbal ability to communicate effectively, orally and in writing, with superiors and subordinates; clerical aptitude to detect errors in correspondence, statistical tabulations, price lists, inventory records, and timetables; ability to motivate people to work cooperatively and conscientiously in activities which are frequently routine and repetitive; and ability to perform work done by subordinates and to train new employees when required.

Generally, trainees in these occupational categories will become supervisors of personnel or services. Therefore, the instructor should read carefully the sections of this guide titled Supervisor, Clerical, and Managers and Officials. The specific occupation for which the trainee is being trained should determine the supervisory units to be studied.

### For Occupational Course of Study

The trainee should have skills and knowledge equivalent to those gained from the General Office Education Units suggested as pertinent to these occupations.

The local instructor may check the trainee's previously acquired abilities against the Standards of Achievement for the General Office Education Units in order to plan the curriculum for the trainee.

| Appropriate General Office Education Units | (Clock) Hours |
|---|---|
| Adding and Calculating Machines | 60 |
| Applied Office Mathematics | 30 |
| Bookkeeping and Accounting I | 60 |
| Bookkeeping and Accounting II | 60 |
| Business Behavior and Psychology | 30 |
| Business Communication and Language Skills | 45 |
| Business Principles and Management | 60 |
| Correspondence and Report Writing | 30 |
| Filing and Filing Systems | 60 |
| Indexing | 15 |
| Introduction to Office Services | 60 |
| Office Practice I - General | 60 |
| Office Practice II - General | 75 |
| Payroll Records | 30 |
| Principles of Mathematics | 30 |
| Skill Typing | 60 |
| Spelling and Vocabulary | 30 |
| Typing I | 60 |
| Realistic Work Experience | |

## COMPUTING AND ACCOUNT-RECORDING OCCUPATIONS
n.e.c.

### Group Description

D. O. T. No. 219*

This group includes occupations, not elsewhere classified, concerned with systematizing information about transactions and activities into accounts and quantitative records, and paying and receiving money.

Computing and Account-Recording Occupations are designated by base titles and defined related titles according to their 6-digit code numbers as:

### D. O. T. No. 219.368

Brokerage Clerk (finan. inst.) II
Floorman (motor trans.)

### Job Description

Brokerage Clerk (finan. inst.) II. Performs duties as directed by stock exchange broker: Writes customer's orders for stock purchases and sales and records information on journal sheet. Telephones customers to inform them of market fluctuations and of stock purchases and sales affecting their accounts. Totals daily transactions and summarizes effects on broker's holdings.

Floorman (motor trans.) Assigns taxicabs to Taxi Drivers and maintains record of assignments. Reviews report of meter readings taken from incoming cabs for accuracy or may take and record taximeter readings.

### Prerequisites

#### For Occupation

An occupationally significant combination of: Ability to become thoroughly familiar with established rules and guidelines governing work situation; ability to communicate orally to transmit instructions and information; clerical preception to avoid errors in reading tabular information and in keeping accurate records; ability to adjust to fluctuating circumstances; ability to relate to people; and reliability.

#### For Occupational Course of Study

The trainee should have skills and knowledge equivalent to those gained from the General Office Education Units suggested as pertinent to these occupations.

The local instructor may check the trainee's previously acquired abilities against the Standards of Achievement for the General Office Education Units in order to plan the curriculum for the trainee.

| Appropriate General Office Education Units | (Clock) Hours |
|---|---|
| Adding and Calculating Machines | 60 |
| Applied Office Mathematics | 30 |
| Business Behavior and Psychology | 30 |
| Business Communication and Language Skills | 45 |
| Indexing | 15 |
| Introduction to Office Services | 60 |
| Office Practice I - General | 60 |
| Principles of Mathematics | 30 |
| Record Keeping | 60 |
| Spelling and Vocabulary | 30 |
| Typing I | 60 |
| Realistic Work Experience | |

## COMPUTING AND ACCOUNT-RECORDING OCCUPATIONS
n.e.c.

**D. O. T. No. 219***

**Group Description**

This group includes occupations, not elsewhere classified, concerned with systematizing information about transactions and activities into accounts and quantitative records, and paying and receiving money.

Computing and Account-Recording Occupations are designated by base titles and defined related titles according to their 6-digit code numbers as:

**D. O. T. No. 219.388**

Account Analyst (banking)
Actuarial Clerk (insurance)
Aircraft-Log Clerk (air trans.)
Billing Clerk (clerical) II
Bond Clerk (banking)
Advice Clerk (banking)
Coupon-Collection Clerk (banking)
Box-Estimator, Paperboard Products (paper goods)
Budget Clerk (clerical)
Checker (amuse. & rec.)
City-Collection Clerk (banking)
Clearing-House Clerk (banking)
Clerk, Cable Transfer (tel. & tel.)
Clerk, General Office (clerical)
Contract Clerk, Automobile (ret. tr.)
District Clerk (clerical)
Manifest Clerk (water trans.)
Settlement Clerk (ore dress., & refin.)
Tax Clerk (clerical) I
Ward Clerk (medical ser.)
Clerk, Telegraph Service (tel. & tel.)
C. O. D. Clerk (clerical)
Coding Clerk (clerical)
Collateral-and-Safekeeping Clerk (banking)
Control Clerk, Auditing (insurance)
Control Clerk, Data Processing (clerical) I
Country-Collection Clerk (banking)
Crew Scheduler (air trans.)
Demurrage Clerk (r.r. trans.)
Estimator (print. & pub.)
Exchange Clerk (banking)
Film-Rental Clerk (ret. tr.)
Foreign-Collection Clerk (banking)
Insurance Clerk (clerical) I
Insurance Clerk (banking) I
Insurance Clerk (banking) II
Interest Clerk (banking)
Letter-of-Credit Clerk (banking)
Load-Control Agent (air trans.)
Main-Extension Clerk (light, heat, & power)
Margin Clerk (banking)
Margin Clerk (finan. inst.)
Media Clerk (bus. ser.)
Mortgage-Accounting Clerk (clerical)
Paper-Control Clerk (water trans.)

D. O. T. No. 219.388

- Paymaster (clerical)
- Planimeter Operator (gov. ser.)
- Chart Clerk (petrol. refin.)
- Policy-Change Clerk (insurance)
- Probate Clerk (banking)
- Programmer, Detail (clerical)
- Rate Clerk, Freight (motor trans.)
- Rater (insurance)
- Rate Reviewer (light, heat, & power)
- Real-Estate Clerk (clerical)
- Reserves Clerk (banking)
- Returned-Item Clerk (banking)
- Revival Clerk (insurance)
- Sales Development Clerk (tel. & tel.)
- Services Clerk (water trans.)
- Sorting Clerk (banking)
- Statistical Clerk (clerical)
- Statistical Clerk, Advertising (ret. tr.)
- Timekeeper (clerical)
- Dispatcher Clerk (r. r. trans.)
- Flight-Crew-Time Clerk (air trans.)
- Traffic-Rate Clerk (clerical)
- Revising Clerk (motor trans.; r.r. trans.)
- Trust-Vault Clerk (banking)
- Worksheet Clerk (insurance)

## Job Description

Workers in occupations with a D. O. T. No. 219.388 perform many of the same types of activities even though the jobs are different. The occupations are concerned with systematizing information about transactions and activities into accounts and quantitative records and in many cases paying and receiving money. Refer to Volume I, Dictionary of Occupational Titles, Third Edition, for specific job descriptions.

## Prerequisites

### For Occupation

An occupationally significant combination of: Intellectual capacity and interest sufficient to acquire an understanding of systematic, numerical, recordkeeping and data-gathering procedures; ability to apply arithmetic principles and correct computational errors; attention to detail to avoid clerical errors; form perception; eye-hand coordination; and finger and manual dexterity.

### For Occupational Course of Study

The trainee should have skills and knowledge equivalent to those gained from the General Office Education Units suggested as pertinent to these occupations.

The local instructor may check the trainee's previously acquired abilities against the Standards of Achievement for the General Office Education Units in order to plan the curriculum for the trainee.

| Appropriate General Office Education Units | (Clock) Hours |
|---|---|
| Adding and Calculating Machines | 60 |
| Applied Office Mathematics | 30 |
| Business Behavior and Psychology | 30 |

| Appropriate General Office Education Units (Continued) | (Clock) Hours |
|---|---|
| Business Communication and Language Skills | 45 |
| Indexing | 15 |
| Introduction to Office Services | 60 |
| Office Practice I - General | 60 |
| Principles of Mathematics | 30 |
| Record Keeping | 60 |
| Spelling and Vocabulary | 30 |
| Typing I | 60 |
| Realistic Work Experience | |

# COMPUTING AND ACCOUNT-RECORDING OCCUPATIONS
n.e.c.

D. O. T. No. 219*

## Group Description

This group includes occupations, not elsewhere classified, concerned with systematizing information about transactions and activities into accounts and quantitative records, and paying and receiving money.

Computing and Account-Recording Occupations are designated by base titles and defined related titles according to their 6-digit code numbers as:

## D. O. T. No. 219.485

Currency Sorter (banking)

## Job Description

Currency Sorter (banking). Sorts and counts paper money, using automatic currency-counting machine. Examines money to detect and sort out counterfeit, mutilated, and worn bills. Requisitions replacements. Sorts bills according to denomination or Federal Reserve District number, and inserts them into open slot of machine to be automatically grouped and counted. Verifies totals registered on machine against amount of deposit reported by member bank or depositor and posts shortage or overage to account. Bundles and wraps counted money to be placed in vault.

## Prerequisites

### For Occupation

An occupationally significant combination of: The ability and willingness to follow instructions to the letter; spatial and form perception to perceive differences in tangible matter; accuracy and attention to detail; finger and manual dexterity; eye-hand coordination; and disposition toward work of a routine, repetitive, and noncreative nature.

### For Occupational Course of Study

The trainee should have skills and knowledge equivalent to those gained from the General Office Education Units suggested as pertinent to this occupation.

The local instructor may check the trainee's previously acquired abilities against the Standards of Achievement for the General Office Education Units in order to plan the curriculum for the trainee.

Due to the specialty of this occupation and the variety of machines available for use in this occupation, it is suggested that the trainee receive "on the job" training on the machines he will use in the employing office.

| Appropriate General Office Education Units | (Clock) Hours |
|---|---|
| Adding and Calculating Machines | 60 |
| Business Behavior and Psychology | 30 |
| Business Communication and Language Skills | 45 |
| Indexing | 15 |
| Introduction to Office Services | 60 |
| Principles of Mathematics | 30 |
| Record Keeping | 60 |
| Spelling and Vocabulary | 30 |
| Typing I | 60 |
| Realistic Work Experience | |

## COMPUTING AND ACCOUNT-RECORDING OCCUPATIONS
## n.e.c.

**Group Description** **D. O. T. No. 219***

This group includes occupations, not elsewhere classified, concerned with systematizing information about transactions and activities into accounts and quantitative records, and paying and receiving money.

Computing and Account-Recording Occupations are designated by base titles and defined related titles according to their 6-digit code numbers as:

**D. O. T. No. 219.487**

Measurer (agric.)

### Job Description

Measurer (agric.). Measures land used for growing crops to compute wages of workers or payment to contractors: Visually divides field into geometrical sections. Measure length and width of each section, using measuring stick or tape. Computes land area to ascertain payment.

### Prerequisites

#### For Occupation

An occupationally significant combination of: The ability and willingness to follow instructions to the letter; spatial and form perception to perceived differences in tangible matter; accuracy and attention to detail; finger and manual dexterity; eye-hand coordination; and disposition toward work of a routine, repetitive, and noncreative nature.

#### For Occupational Course of Study

The trainee should have skills and knowledge equivalent to those gained from the General Office Education Units suggested as pertinent to this occupation.

The local instructor may check the trainee's previously acquired abilities against the Standards of Achievement for the General Office Education Units in order to plan the curriculum for the trainee.

| Appropriate General Office Education Units | (Clock) Hours |
|---|---|
| Adding and Calculating Machines | 60 |
| Business Behavior and Psychology | 30 |
| Business Communication and Language Skills | 45 |
| Indexing | 15 |
| Introduction to Office Services | 60 |
| Principles of Mathematics | 30 |
| Record Keeping | 60 |
| Spelling and Vocabulary | 30 |
| Typing I | 60 |
| Realistic Work Experience | |

## COMPUTING AND ACCOUNT-RECORDING OCCUPATIONS
n.e.c.

D. O. T. No. 219*

### Group Description

This group includes occupations, not elsewhere classified, concerned with systematizing information about transactions and activities into accounts and quantitative records, and paying and receiving money.

Computing and Account-Recording Occupations are designated by base titles and defined related titles according to their 6-digit code numbers as:

### D. O. T. No. 219.488

Accounting Clerk (clerical)
Additions and Betterments Clerk (r.r. trans.)
Voucher Clerk (r.r. trans.)
Advertising-Space Measurer (clerical)
Booking Prizer (tobacco)
Brokerage Clerk (finan. inst.)
Collection-Sheet Clerk (motor trans.)
Cost Clerk (clerical)
Deposit Refund Clerk (light, heat, & power)
Fabric-and-Accessories Estimator (garment)
Foreign Clerk (clerical)
Grading Clerk (education)
Insurance Checker (insurance)
Rate Clerk (motor trans.)
Reinsurance Clerk (insurance)
Toll-Rating Clerk (tel. & tel.)

### Job Description

Workers in occupations with a D. O. T. No. 219.488 perform many of the same types of activities even though the jobs are different. The occupations are concerned with systematizing information about transactions and activities into accounts and quantitative records and in many cases paying and receiving money. Refer to Volume I, Dictionary of Occupational Titles, Third Edition, for specific job descriptions.

### Prerequisites

#### For Occupation

An occupationally significant combination of: Intellectual capacity and interest sufficient to acquire an understanding of systematic, numerical, recordkeeping and data-gathering procedures; ability to apply arithmetic principles and correct computational errors; attention to detail to avoid clerical errors; form perception; eye-hand coordination; and finger and manual dexterity.

#### For Occupational Course of Study

The trainee should have skills and knowledge equivalent to those gained from the General Office Education Units suggested as pertinent to these occupations.

The local instructor may check the trainee's previously acquired abilities against the Standards of Achievement for the General Office Education Units in order to plan the curriculum for the trainee.

| Appropriate General Office Education Units | (Clock) Hours |
|---|---|
| Adding and Calculating Machines | 60 |

| Appropriate General Office Education Units (Continued) | (Clock) Hours |
|---|---|
| Applied Office Mathematics | 30 |
| Business Behavior and Psychology | 30 |
| Business Communication and Language Skills | 45 |
| Indexing | 15 |
| Introduction to Office Services | 60 |
| Principles of Mathematics | 30 |
| Record Keeping | 60 |
| Spelling and Vocabulary | 30 |
| Typing I | 60 |
| Realistic Work Experience | |

## COMPUTING AND ACCOUNT-RECORDING OCCUPATIONS
n.e.c.

Group Description — D. O. T. No. 219*

This group includes occupations, not elsewhere classified, concerned with systematizing information about transactions and activities into accounts and quantitative records, and paying and receiving money.

Computing and Account-Recording Occupations are designated by base titles and defined related titles according to their 6-digit code numbers as:

D. O. T. No. 219.585

### Coin-Machine Operator (clerical)

### Job Description

Coin-Machine Operator (clerical). Tends machine that counts, sorts, and wraps coins of various denominations: Lifts bags of coins and dumps them into hopper of machine. Places rolls of counted coins into bags for distribution. Keeps records of total money processed. May insert fittings on coin channels of machine to sort coins according to denominations. May move money to and from cages and vaults, using handtruck.

### Prerequisites

#### For Occupation

An occupationally significant combination of: The ability and willingness to follow instructions to the letter; spatial and form perception to perceive differences in tangible matter; accuracy and attention to detail; finger and manual dexterity; eye-hand coordination; and disposition toward work of a routine, repetitive, and noncreative nature.

#### For Occupational Course of Study

The trainee should have skills and knowledge equivalent to those gained from the General Office Education Units suggested as pertinent to this occupation.

The local instructor may check the trainee's previously acquired abilities against the Standards of Achievement for the General Office Education Units in order to plan the curriculum for the trainee.

| Appropriate General Office Education Units | (Clock) Hours |
|---|---|
| Adding and Calculating Machines | 60 |
| Business Behavior and Psychology | 30 |
| Business Communication and Language Skills | 45 |
| Indexing | 15 |
| Introduction to Office Services | 60 |
| Principles of Mathematics | 30 |
| Record Keeping | 60 |
| Spelling and Vocabulary | 30 |
| Typing | 60 |
| Realistic Work Experience | |

## COMPUTING AND ACCOUNT-RECORDING OCCUPATIONS
n.e.c.

Group Description | D. O. T. No. 219*

This group includes occupations, not elsewhere classified, concerned with systematizing information about transactions and activities into accounts and quantitative records, and paying and receiving money.

Computing and Account-Recording Occupations are designated by base titles and defined related titles according to their 6-digit code numbers as:

D. O. T. No. 219.588

Coin-Machine Operator (banking)
Posting Clerk (clerical)
Bookman (whole tr.)
Charge-Refer Clerk (clerical)
Data-Change Clerk (insurance)
Error-Ledger Clerk (clerical)
Kardex Clerk (clerical)
Meter-Order Clerk (light, heat, & power)
Remittance Clerk (insurance)
Suspense Clerk (light, heat, & power)
Suspense-Retirement-Clearance-Ledger Clerk
    (light, heat, & power)
Telegraph-Service Rater (tel. & tel.)

### Job Description

Workers in occupations with D. O. T. No. 219.588 perform many of the same types of activities even though the jobs are different. The occupations are concerned with systematizing information about transactions and activities into accounts and quantitative records and in many cases paying and receiving money. Refer to Volume I, Dictionary of Occupational Titles, Third Edition, for specific job descriptions.

### Prerequisites

For Occupation

An occupationally significant combination of: Common sense to learn and follow routine clerical procedures; verbal ability and clerical aptitude to keep accurate and legible records and to perform such tasks as sorting bills, receipts, and invoices.

For Occupational Course of Study

The trainee should have skills and knowledge equivalent to those gained from the General Office Education Units suggested as pertinent to these occupations.

The local instructor may check the trainee's previously acquired abilities against the Standards of Achievement for the General Office Education Units in order to plan the curriculum for the trainee.

| Appropriate General Office Education Units | (Clock) Hours |
|---|---|
| Adding and Calculating Machines | 60 |
| Business Behavior and Psychology | 30 |
| Business Communication and Language Skills | 45 |
| Indexing | 15 |
| Introduction to Office Services | 60 |
| Principles of Mathematics | 30 |

| Appropriate General Office Education Units (Continued) | (Clock) Hours |
|---|---|
| **Record Keeping** | **60** |
| **Spelling and Vocabulary** | **30** |
| **Typing I** | **60** |
| **Realistic Work Experience** | |

## COMPUTING AND ACCOUNT-RECORDING OCCUPATIONS
n.e.c.

**Group Description** **D. O. T. No. 219***

This group includes occupations, not elsewhere classified, concerned with systematizing information about transactions and activities into accounts and quantitative records, and paying and receiving money.

Computing and Account-Recording Occupations are designated by base titles and defined related titles according to their 6-digit code numbers as:

**D. O. T. No. 219.688**

Control Clerk, Data Processing (clerical) II
Tallyman, Fish (gov. ser.)

### Job Description

Control Clerk, Data Processing (clerical) II. Reads flow charts to ascertain sequence of materials required for machine operation. Provides workers with such materials as punched cards and reels of magnetic tape to expedite processing of data.

Tallyman, Fish (gov. ser.). Counts fish as they go up series of steps in dam, using counting device. May record various species of fish counted.

### Prerequisites

#### For Occupation

An occupationally significant combination of: Common sense to learn and follow routine clerical procedures; verbal ability and clerical aptitude to keep accurate and legible records and to perform such tasks as sorting bills, receipts, and invoices.

#### For Occupational Course of Study

The trainee should have skills and knowledge equivalent to those gained from the General Office Education Units suggested as pertinent to these occupations.

The local instructor may check the trainee's previously acquired abilities against the Standards of Achievement for the General Office Education Units in order to plan the curriculum for the trainee.

| Appropriate General Office Education Units | (Clock) Hours |
|---|---|
| Adding and Calculating Machines | 60 |
| Business Behavior and Psychology | 30 |
| Business Communication and Language Skills | 45 |
| Indexing | 15 |
| Introduction to Office Services | 60 |
| Principles of Mathematics | 30 |
| Record Keeping | 60 |
| Spelling and Vocabulary | 30 |
| Typing I | 60 |
| Realistic Work Experience | |

## SUPERVISOR (Clerical)

(chief; group leader; head; leader;
principal; section chief; senior.)

Job Description D. O. T. No. **.138

Supervises and coordinates activities of group of workers engaged chiefly in one type of clerical function as bookkeeping, typing, and filing: Determines work procedures. Issues written and oral orders or instructions. Assigns duties to workers and examines work for exactness and neatness. Prepares composite reports from individual reports of subordinates. Maintains harmony among workers. Adjusts errors and complaints. May perform essentially same duties as other workers, or assist subordinates in performing duties. May keep time report and other personnel records. May employ, train, and discharge workers. Classifications are made according to type of work supervised as SUPERVISOR, COMPUTER OPERATIONS; SUPERVISOR, MESSENGERS (tel. & tel.); TELEGRAPHIC-TYPEWRITER OPERATOR, CHIEF.

### Prerequisites

#### For Occupation

This type of position demands basic skills development in typing and general office work. It requires a complete knowledge of courses which are basic in nature and which should precede specialization. It requires persons who can exercise independent judgment in a mature way, solve problems and coordinate working relationships. The abilities to plan ahead and to make assignments in a manner which promotes coordinated action and the completion of individual tasks according to the established priorities. The ability to communicate orally and in writing; clerical aptitude to detect errors; ability to motivate people; ability to train new employees. Normally, entry into this kind of work is accomplished by promotion from other positions within an organization.

#### For Occupational Course of Study

Because of individual differences in abilities, attitudes, and earlier training, trainee programs for this supervisory category will have to be tailored to meet individual requirements. Frequently, on-the-job experience and training will more than compensate for a course or courses. The instructor should determine by interview and testing the extent of the knowledge possessed by a trainee before establishing a suggested curricula. In addition to appropriate General Office Education Units, and perhaps some Specialized Occupation Units, the supervisory trainee will have a need for Administrative Occupation Units in order to build a background of information which will enable the trainee to perform the administrative responsibilities indicated in the job description.

The instructor should check the trainee's previously acquired abilities against the Standards of Achievement for the General Office Education Units in order to plan the basic curriculum for the trainee and to recommend certain Specialized Occupation Units and Administrative Occupation Units.

| Appropriate General Office Education Units | (Clock) Hours |
|---|---|
| Applied Office Mathematics | 30 |
| Bookkeeping and Accounting I | 60 |
| Bookkeeping and Accounting II | 60 |
| Business Behavior and Psychology | 30 |
| Business Communication and Language Skills | 45 |
| Business Principles and Management | 60 |
| Correspondence and Report Writing | 30 |

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** Classifications are made and code numbers are assigned according to the type of work supervised.

| Appropriate General Office Education Units (Continued) | (Clock) Hours |
|---|---|
| Filing and Filing Systems | 60 |
| Indexing | 15 |
| Introduction to Office Services | 60 |
| Office Practice I - General | 60 |
| Office Practice II - General | 75 |
| Posting Machine Operation | 30 |
| Principles of Data Processing | 60 |
| Principles of Mathematics | 30 |
| Skill Typing | 60 |
| Spelling and Vocabulary | 30 |
| Typing I | 60 |
| Realistic Work Experience | |
| **Appropriate Specialized Office Education Units** | |
| Bookkeeping and Accounting III | 60 |
| Data Processing Library Training | 45 |
| **Appropriate Administrative Office Education Units** | |
| Office Administration | 60 |

# OFFICE ADMINISTRATION (OA)

## Hours Required

Class: 1 hour daily Total: 60 hours

## Description

This unit provides the supervisory trainee with an understanding of the administrative operation of a complete office or a division of the office. It will assist the trainee with layout requirements and efficiency analysis of his department. In addition, this unit will aid the trainee in developing an understanding of the training and the supervision of other office employees.

## Teaching Tips

This administrative unit of instruction should be offered only to those trainees who have proven their aptitude and ability to accept the responsibility of a supervisory position. Background units for this unit should include all those listed under Supervisor (Clerical). Personal qualifications for entry into this unit are described under Supervisor (Clerical).

An appreciation should be developed in the trainee for modern automated methods of operating and supervising an office and to effect cost reductions in all phases of office procedures for speed, economy, and accuracy.

## Topic Outline

I. Management and Office Organization
II. Office Layout
III. Office Personnel
IV. Office Analysis and Control
V. Administration of Automation in the Office
VI. Administration of Office Services
VII. Executive Controls

### TOPIC I - MANAGEMENT AND OFFICE ORGANIZATION

A. Problems of office management
  1. Functions
  2. The office manager
  3. The division head

B. Organization and functions of the office
  1. Controls
  2. Centralization
  3. Decentralization

### TOPIC II - OFFICE LAYOUT

A. Location and construction
  1. Design
  2. Floor plans

B. Psychological and comfort factors
  1. Color
  2. Light
  3. Acoustics
  4. Ventilation

C. Furniture, machines, equipment

### TOPIC III - OFFICE PERSONNEL

A. Selection
  1. Sources of workers
  2. Hiring routines
  3. Tests

B. Training and indoctrination of new employees
  1. Problems
  2. Indoctrination
  3. Training programs

C. Compensation and promotion
  1. Plans for compensation
  2. Promotion standards
  3. Employee transfer
  4. Upgrading

D. Policies and practices
  1. Counseling
  2. Unions
  3. Fringe benefits

E. Supervision
   1. Personal problems of employees
   2. Morale problems of employees
   3. Health problems of employees
   4. Philosophy of management
   5. Duties

### TOPIC IV - OFFICE ANALYSIS AND CONTROL

A. Establishing procedures

B. Establishing standards

C. Office forms
   1. Principles
   2. Design
   3. Use
   4. Control

D. Office costs

### TOPIC V - ADMINISTRATION OF AUTOMATION IN THE OFFICE

A. Nature of automation

B. Office machines

C. Sales and payrolls

D. IDP - ADP - EDP

E. Effects of automation

### TOPIC VI - ADMINISTRATION OF OFFICE SERVICES

A. Office correspondence
   1. Nature
   2. Importance
   3. Dictating and transcribing equipment
   4. Mechanics of a letter

B. Organization and control of correspondence
   1. Office manual
   2. Interdepartmental memo
   3. Improvement of correspondence
   4. Expense
   5. Cost reduction

C. Mailing activities
   1. Mail department
   2. Mailing costs
   3. Routines of mailing
   4. Classes of mail
   5. Mail personnel
   6. Mail equipment

D. Records management
   1. Organization of filing department
   2. Routines
   3. Personnel

E. Office communications
   1. Written
   2. Oral

F. Duplicating and reproducing

### TOPIC VII - EXECUTIVE CONTROLS

A. Office manuals
   1. Purpose
   2. Classification
   3. Preparation

B. Reports
   1. Preparation
   2. Uses
   3. Illustrations

## Texts and Other Teaching Materials

From the following suggested texts and materials (or other equivalent commercially available material), select trainee and teacher materials for use in this unit. Additional materials are listed in Appendix B.

Broom, H. M., and Longenecker, J. G. Small Business Management. Cincinnati, Ohio: South-Western Publishing Co., Inc., 1966.

Heckmann, I. L., and Huneryager, S. G. Human Relations in Management. Cincinnati, Ohio: South-Western Publishing Co., Inc., 1960.

Huffman, Harry; Mulkeme, Donald J. D.; and Russon, Allien. Office Procedures and Administration. New York: McGraw-Hill Book Co., Inc., 1965.

Johnson, Mina M., and Kallaus, Norman F. Records Management. Cincinnati, Ohio: South-Western Publishing Co., Inc., 1966.

Laird, Donald A., and Laird, Eleanor. Practical Business Psychology. 3rd ed. New York: McGraw-Hill Book Co., Inc., 1961.

Lazarro, Victor. Systems and Procedures. Englewood Cliffs, N. J.: Prentice-Hall, Inc., 1962.

Neuner, John J. W., and Keeling, B. Lewis. Administrative Office Management. 5th ed. Cincinnati, Ohio: South-Western Publishing Co., Inc., 1966.

Newton, Roy, and Green, Helen Kinkson. How To Improve Your Personality. 3rd ed. New York: McGraw-Hill Book Co., Inc., 1963.

Robinson, Edwin, and Hall, J. Curtis. College Business Organization and Management. 3rd ed. New York: McGraw-Hill Book Co., Inc., 1964.

Russon, Allien R. Business Behavior. 3rd ed. Cincinnati, Ohio: South-Western Publishing Co., Inc., 1964.

Selden, William; Straub, Lura Lyn; and Porter, Leonard J. Filing and Finding. Englewood Cliffs, N. J.: Prentice-Hall, Inc., 1962.

Shilt, Bernard A., and Wilson, W. Harmon. Business Principles and Management. 4th ed. Cincinnati, Ohio: South-Western Publishing Co., Inc., 1961.

Terry, George R. Office Management and Control. 3rd ed. Homewood, Illinois: Richard D. Irwin, Inc., 1963.

Tonne, Herbert; Simon, Sidney; and McGill, E. C. Business Principles, Organization, and Management. 2nd ed. New York: McGraw-Hill Book Co., Inc., 1963.

## MANAGERS AND OFFICIALS

Job Description — D. O. T No. **.168

Organizes and coordinates the functions of a unit, department, or branch of an organization. Manages the activities of a complete department engaged in clerical functions as bookkeeping, typing, filing, and others. Controls the technology involved in the performance of responsibilities for the department. Must be capable of using statistics to maintain a high level of production. Determines principles and procedures of inventory control and records. Must exhibit leadership qualities to motivate and direct employees and to maintain good employer-employee and customer relationships.

### Prerequisites

### For Occupation

This type of work demands a knowledge of basic business skills and business organization and principles. It requires a thorough knowledge of courses which are basic in nature and which should precede specialization. It requires successful experience in applicable work field at lower levels; academic preparation in advanced coursework in management, such as business principles and management; an interest in assuming managerial responsibilities; and leadership qualities. This person must have an occupationally significant combination of: Ability to plan, initiate, and execute programs; ability to understand, interpret, and apply procedures and directives; numerical facility, verbal facility; and the ability to relate instructions to employees.

### For Occupational Course of Study

Promotion from within is the most common method employed for filling positions in this group. In some cases, however, employers desire new ideas, new techniques, new procedures, and new personalities, and recruit from outside the organization.

Most employers look for an educational background in their managers which consists of appropriate personnel, vocational, business, merchandising, or similar coursework. Frequently employers provide their new employees with management-training programs which usually entail a combination of special training seminars and actual on-the-job training.

Because of individual differences in abilities, attitudes, and earlier training, trainee programs for this supervisory category will have to be tailored to meet individual requirements. Frequently, on-the-job experience and training will more than compensate for a course or courses. The instructor should determine by interview and testing the extent of the knowledge possessed by a trainee before establishing a suggested curricula. In addition to appropriate General Office Education Units, and perhaps some Specialized Occupation Units, the supervisor will have a need for Administrative Occupation Units in order to build a background of information which will enable the trainee to perform the administrative responsibilities indicated in the job description.

One unit of work suggested for the Administrative Occupation section is Computer Programming for Business Operations. This unit is optional, and the teacher should keep in mind that this is a highly specialized course consisting of 600 clock hours. The unit should be pursued only by the more academically talented and interested trainee. For additional details the teacher should read U.S.O.E. publication number OE86010.

| Appropriate General Office Education Units | (Clock) Hours |
|---|---|
| Adding and Calculating Machines | 60 |
| Applied Office Mathematics | 30 |
| Bookkeeping and Accounting I | 60 |

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** Classifications are made and code numbers are assigned according to the type of work managed.

| Appropriate General Office Education Units (Continued) | (Clock) Hours |
|---|---|
| Bookkeeping and Accounting II | 60 |
| Business Behavior and Psychology | 30 |
| Business Communication and Language Skills | 45 |
| Business Principles and Management | 60 |
| Correspondence and Report Writing | 30 |
| Filing and Filing Systems | 60 |
| Indexing | 15 |
| Introduction to Office Services | 60 |
| Office Practice I - General | 60 |
| Office Practice II - General | 75 |
| Posting Machines | 30 |
| Principles of Data Processing | 60 |
| Principles of Mathematics | 30 |
| Skill Typing | 60 |
| Spelling and Vocabulary | 30 |
| Typing I | 60 |
| Realistic Work Experience | |
| **Specialized Office Education Units** | |
| Bookkeeping and Accounting III | 60 |
| Bookkeeping and Accounting IV | 60 |
| Business Law | 30 |
| **Administrative Office Education Units** | |
| *Computer Programming for Business Operations | 600 |
| Economics of Office Administration | 30 |
| Managerial Accounting | 60 |
| Office Administration | 60 |

* Optional

## COMPUTER PROGRAMMING FOR BUSINESS OPERATIONS (CP)

### Hours Required

Class: 2 hours daily; Laboratory: 2 hours daily    Total: 600 hours

### Description

This unit prepares trainees to accept a position in an office at the entry level of a business programmer. Considerable emphasis is placed on programming systems and designs.

### Teaching Tips

It is assumed that students in this course will have had a broad exposure to accounting procedures and applications and business management techniques. The trainee should have had experience in communication skills and a familiarity with the operation and functions of electro-mechanical equipment. Due to the technical aspect of the course, trainees selected should be above average in mentality and initiative. It is suggested that the instructor read U.S.O.E. publication number OE86010.

### Topic Outline

I. Basic Computing Machines
II. Intermediate Programming
III. Advanced Computer Problems
IV. Systems Development and Design
V. Advanced Programming Techniques
VI. Business Simulation

### TOPIC I - BASIC COMPUTING MACHINES

A. Introduction and history of data processing

B. Punch card systems

C. Problem solving and flow charting

D. Number systems

E. Computer systems and components

F. Machine language

G. Sample problems-machine language

H. Organization of (specify type) computer system
   1. Components
   2. Instruction format
   3. Storage organization
   4. Data flow

I. Instructions—card system
J. Programming techniques
K. Laboratory practice

### TOPIC II - INTERMEDIATE PROGRAMMING

A. Intermediate programming techniques
   1. Command modification
   2. Table look-up
   3. Subroutines

B. Laboratory practice
   1. Flow charting
   2. Writing the procedures
   3. Operating
   4. Debugging

C. Symbolic programming

D. Familiarization with major computer systems

### TOPIC III - ADVANCED COMPUTER PROBLEMS

A. Input-output control system features

B. System control techniques

C. Checkpoint and restart

D. Hardware independence

E. Random access

F. Program modification

G. Operations techniques

### TOPIC IV - SYSTEMS DEVELOPMENT AND DESIGN

A. Problem definition
   1. Scope
   2. Objectives
   3. Limiting factors

B. Requirements of the system

C. Developing the solution
  1. Systems flow charting
  2. Testing
  3. Documentation
  4. Review

D. System control

E. System evaluation

## TOPIC V - ADVANCED PROGRAMMING TECHNIQUES

A. Translators, compilers, and assemblers

B. High level processors

C. Report generators

D. input-output control systems

E. Sorts-merges

F. Monitors and supervisory systems

G. Simulators

## TOPIC VI - BUSINESS SIMULATION

A. Team and project selection

B. Writeup procedures

C. Design forms for approval

D. Flow charting

E. Write program

F. Develop test data

G. Debug program

H. Run live work

## Texts and Other Teaching Materials

From the following suggested texts and materials (or other equivalent commercially available material), select trainee and teacher materials for use in this unit. Additional references are listed in Appendix B.

Chapin, Ned. Programming Computers for Business Applications. New York: McGraw-Hill Book Co., Inc., 1961.
Evans, G. W., and Perry, C. L. Programming and Coding for Automatic Digital Computers. New York: McGraw-Hill Book Co., Inc., 1961.
Hein, Leonard W. An Introduction to Electronic Data Processing for Business. Princeton, N.J.: D. Van Nostrand Co., 1961.
IBM Corporation. Introduction to IBM Data Processing Systems. Item No. F22-6517.
____________. Machine Functions. Item No. 224-8208-4.
____________. 1401 System Programmer's Guide. Item No. C24-1494.
____________. Programmer's Aptitude Test. Item No. 120-6764.
Laurie, Edward J. Computers and Computer Language. 2nd ed. Cincinnati, Ohio: South-Western Publishing Co., Inc., 1966.
McCracken, D. D.; Weiss, H.; and Lee, T. Programming Business Computers. New York: John Wiley and Sons, Inc., 1959.
Oakford, Robert V. Introduction to Electronic Data Processing Equipment. New York: McGraw-Hill Book Co., Inc., 1962.
Siegel, Paul. Understanding Digital Computers. New York: John Wiley and Sons, Inc., 1961.
Swallow, Kenneth P., and Price, Wilson T. Elements of Computer Programming. New York: Holt, Rinehart, and Winston, Inc., 1965.
Wanous, S. J., and Wanous, E. E. Automation Office Practice. Cincinnati, Ohio: South-Western Publishing Co., Inc., 1964.

## ECONOMICS OF OFFICE ADMINISTRATION (EC)

### Hours Required

Class: 1 hour daily Total: 30 hours

### Description

This course presents economic principles and concepts which should be understood by every trainee being considered for a managerial post in an office. The emphasis in this course is upon business and its local and national economy.

### Teaching Tips

Emphasis should be placed on the effect of the free enterprise system on our national economy, the economics involved in the success of a business, and the economic factors contributing to administration of a business.

### Topic Outline

I. Introduction to Economics
II. The Free Enterprise System
III. The American Economic System in Business
IV. The Wage Earner as an Economic Factor

### TOPIC I - INTRODUCTION TO ECONOMICS

A. What is economics?

B. How it affects our lives

C. Role of economics in business

### TOPIC II - THE FREE ENTERPRISE SYSTEM

A. Characteristics

B. Laws and regulations affecting business

C. Major problems of American business

### TOPIC III - THE AMERICAN ECONOMIC SYSTEM IN BUSINESS

A. The consumer influence on supply and demand

B. The producer's role in national and local economic trends

C. Distribution of goods and services

D. Financial institutions and relationship to business economics

E. Money management
   1. Savings for growth
   2. Credit
   3. Investments in assets

F. The effect of economic forces on business
   1. Government regulations
   2. Advertising
   3. Taxes and public finance

### TOPIC IV - THE WAGE EARNER AS AN ECONOMIC FACTOR

A. The American worker

B. Labor organizations

C. Labor-management relations

### Texts and Other Teaching Materials

From the following suggested texts and materials (or other equivalent commercially available material), select trainee and teacher materials for use in this unit. Additional references are listed in Appendix B.

Dodd, James Harvey; Kennedy, John W.; and Olsen, Arthur R. Applied Economics. 6th ed. Cincinnati, Ohio: South-Western Publishing Co., Inc., 1962.

Gemmell, J., and Balsley, H. L. Principles of Economics. Boston, Mass.: D. C. Heath and Co., 1964.

Gordon, S., and Wichell, J. An Introduction to the American Economy. Boston, Mass.: D. C. Heath and Co., 1966.

Hurwitz, Howard L., and Shaw, Frederick. Mastering Basic Economics. New York: Oxford Book Co., 1964.

Keiser, Norman F. Introductory Economics. New York: John Wiley & Sons, Inc., 1961.

Klein, Jacob, and Woolf, Colvin. Economic Problems of Today. Chicago, Ill.: Lyons and Carnahan, 1959.

Lynn, Robert Athan. Basic Economic Principles. New York: McGraw-Hill Book Co., Inc., 1965.

Mark, Shelley M. Economics in Action. 3rd ed. Belmont, Calif.: Wadsworth Publishing Co., Inc., 1965.

McConnell, Campbell R. Economics. 3rd ed. New York: McGraw-Hill Book Co., Inc., 1966.

Robinson, Marshall A.; Morton, Herbert C.; and Calderwood, James D. An Introduction to Economic Reasoning. Garden City, N. Y.: Doubleday and Co., Inc., 1962.

Smith, A. H. Economics for Our Times. 3rd ed. New York: McGraw-Hill Book Co., Inc., 1963.

Wilson, W. Harmon, and Eyster, Elvin S. Consumer Economic Problems. 7th ed. Cincinnati, Ohio: South-Western Publishing Co., Inc., 1966.

Wronski, Stanley P.; Doody, Francis S.; and Clemence, Richard V. Modern Economics. Boston, Mass.: Allyn and Bacon, Inc., 1964.

## MANAGERIAL ACCOUNTING PROCEDURES (MAP)

### Hours Required

Class: 1 hour daily — Total: 60 hours

### Description

This unit is designed to give persons in supervisory and management positions a background of information concerning the nature and the importance of business costs. The trainee is instructed in techniques of analyzing true costs and how to treat them in keeping records.

### Teaching Tips

In order to be eligible for this unit the trainee should have completed Bookkeeping and Accounting I, II, II, IV, or the equivalent.

It is suggested that the instructor take into consideration, in presenting this unit, the possibility of the trainee entering this occupational field in some form of local, state, or federal cost accounting.

### Topic Outline

I. Nature of Managerial Accounting
II. Special Sales and Consignments
III. Manufacturing Accounting
IV. Materials
V. Labor Costs
VI. Manufacturing Expenses
VII. Types of Cost Accounting
VIII. Budgets
IX. Project

### TOPIC I - NATURE OF MANAGERIAL ACCOUNTING

A. Purpose

B. Relationship to general accounting

C. Guide to future managerial action

### TOPIC II - SPECIAL SALES AND CONSIGNMENTS

A. C.O.D.

B. Installments
  1. Trade-ins
  2. Repossessions

C. Consignments

### TOPIC III - MANUFACTURING ACCOUNTING

A. Nature

B. Basic and development costs
  1. Materials
  2. Labor (direct, indirect)
  3. Manufacturing expenses
  4. Overhead
  5. Goods in process
  6. Finished goods

C. Basic accounting aids
  1. Voucher system
  2. Factory ledger

D. Cost of goods manufactured

### TOPIC IV - MATERIALS

A. Purchasing

B. Receiving

C. Recording

D. Storing

E. Issuing

F. Costing

### TOPIC V - LABOR COSTS

A. Wage systems

B. Payroll procedures

### TOPIC VI - MANUFACTURING EXPENSES

A. Fixed

B. Variable

C. Semi-variable

D. Departmentalized

### TOPIC VII - TYPES OF COST ACCOUNTING

A. Job order cost
  1. Nature
  2. Types of businesses using

B. Process cost
  1. Nature
  2. Types of business using

C. Standard cost accounting procedures
  1. Purpose
  2. Determining standards
  3. Variances between standard and actual

### TOPIC VIII - BUDGETS

A. Purpose

B. Preparation

C. Control

### TOPIC IX - PROJECT

At this point it is recommended that the trainee work on a manufacturing, job cost, project. This project will enable the trainee to simulate the procedures used on the job.

### Texts and Other Teaching Materials

From the following suggested texts and materials (or other equivalent commercially available material), select trainee and teacher materials for use in this unit. Additional references are listed in Appendix B.

Bridenbaugh, Vachel E.; Lins, Angeline G.; and Elwell, Fayette H. *Bookkeeping Principles.* New York: Pitman Publishing Corp., 1958.

Carlson, Paul A.; Forkner, Hamden L.; and Boynton, Lewis D. *20th Century Bookkeeping and Accounting, Advanced Course, 22nd ed.* Cincinnati, Ohio: South-Western Publishing Co., Inc., 1962.

Chace, Franklin T.; Schmiedicke, Robert E.; and Sherwood, J. F. *Principles of Cost Accounting. 4th ed.* Cincinnati, Ohio: South-Western Publishing Co., Inc., 1964.

Ellsworth, J. Phil, and Jackson, Paul R. *Applied Bookkeeping. 4th ed.* New York: McGraw-Hill Book Co., Inc., 1965.

Freeman, M. Herbert; Hanna, J. Marshall; and Kahn, Gilbert. *Gregg Bookkeeping and Accounting. 3rd ed.* New York: McGraw-Hill Book Co., Inc., 1963.

Janis, Arthur, and Miller, Morris. *Fundamentals of Modern Bookkeeping.* New York: Pitman Publishing Corp., 1965.

Nelson, Oscar S., and Woods, Richard S. *Accounting Systems and Data Processing.* Cincinnati, Ohio: South-Western Publishing Co., Inc., 1961.

Olson, Milton; Zelliot, Ernest A.; and Leidner, Walter E. *Introductory Bookkeeping. 3rd ed.* Englewood Cliffs, N. J.: Prentice-Hall, Inc., 1961.

Randall, Clarence B.; Weimer, Sally W.; and Greenfield, Maynard S. *Systems and Procedures for Automated Accounting.* Cincinnati, Ohio: South-Western Publishing Co., Inc., 1962.

Thomas, William E., Editor, and American Accounting Association. *Readings in Cost Accounting, Budgeting, and Control. 2nd ed.* Cincinnati, Ohio: South-Western Publishing Co., Inc., 1960.

# APPENDIX A - SUGGESTED STANDARDS OF ACHIEVEMENT

Acceptable vocational competencies in a job classification will vary according to local labor and employer standards. The following suggested standards reflect professional opinion concerning generally accepted achievement levels in the subject areas.

Standards of performance are divided into two areas: those subjects in which objective skill measurement is fairly well standardized, and those subjects in which reliance must be placed on the teacher's knowledge of office practices and procedures and previous teaching experience. These latter subjects are primarily concerned with acquisition of knowledge, development of attitudes, and demonstration of acceptable behavior.

The suggested standards should not be considered rigidly minimal. Rather, they should be looked upon as guides in evaluating trainee achievements and class goals.

Evaluation of each trainee by the teacher should include the use of selected class tests, workbook grading, and final tests. In addition, the teacher should note trainee interest, contributions, and motivation.

## GENERAL OFFICE EDUCATION UNITS

### ADDING AND CALCULATING MACHINES

a. An occupational proficiency on common office adding and calculating machines
b. Ability to perform operations proficiently on various listed machines with 98% accuracy in addition, subtraction, multiplication, and division
c. Knowledge of principles, procedures, and techniques for each machine
d. Ability to list from columnar figures 80- to 100-keys-per-minute rate
e. Ability to tabulate 50 handwritten checks in one minute or less - no errors

### APPLIED OFFICE MATHEMATICS

a. Knowledge of departmental purchases and sales, commissions, and piece work
b. Accurate (95% or better) calculations of simple payrolls, discounts and prices, interest rates, and interest yields
c. Accurate (95% or better) calculations of deferred payments and charges, discount and discount rates on notes and drafts
d. Knowledge of the simple types of insurance and tax computations

### BOOKKEEPING AND ACCOUNTING I

a. Knowledge of bookkeeping fundamentals
b. Ability to prepare a simple worksheet
c. Ability to prepare simple financial reports for a service-type business
d. Ability to accurately complete a service-type practice set involving the complete bookkeeping cycle

### BOOKKEEPING AND ACCOUNTING II

a. Knowledge of mercantile business involving merchandise inventory, sales, and purchases
b. Knowledge of special journals
c. Ability to make, record, and post adjusting and closing entries
d. Knowledge of payrolls, income, expenses
e. Ability to operate a set of account books for a mercantile business

### BUSINESS BEHAVIOR AND PSYCHOLOGY

a. Knowledge of the effect of own personality on office productivity
b. Knowledge of basic office customs
c. Acceptable appearance and clear, distinct speech

d. Demonstration of good personal habits and application of common sense to routine office work
e. Understanding of self-personality, motives, emotions--and demonstrated willingness to strive for self-improvement
f. Ability to adjust to group work situations: human relations, teamwork
g. Ability to work independently, organize work, and recognize superior-subordinate relationships
h. Basic understanding of human relations, morale, and productivity in work

## BUSINESS COMMUNICATION AND LANGUAGE SKILLS

a. Knowledge and understanding of the fundamental principles of effective communication
b. Adequate mastery of the mechanics of English
c. Preparation of simple leters from rough notes
d. Handling of appointments, schedules, and acknowledgments
e. Ability to use source material for information
f. Ability to compose letters and reports
g. Ability to listen attentively
h. Knowledge of word lists involving specific occupation

## BUSINESS PRINCIPLES AND MANAGEMENT

a. Knowledge of fundamentals of course unit in regard to types of business organizations and managerial structure and functions (85 to 90% correct on tests of factual material in course content)
b. Basic understanding of simpler businesses and government relationships
c. Knowledge of basic techniques and importance of management of finance, personnel, and production

## CORRESPONDENCE AND REPORT WRITING

a. Knowledge of style and format of letters, reports, and memoranda
b. Knowledge of planning and collection of information; necessity for organization and analysis of data
c. Understanding of the necessity for unity, conciseness, emphasis, clarity, and tone in business correspondence
d. Understanding of the importance of appearance, accuracy, relevance, timeliness, and readability of letters and reports
e. Knowledge of mechanical factors: Capitalization; Hyphenation; Abbreviations; and Grammar-agreement of voice, number, and person

## DATA TYPING

a. Ability to prepare punch cards, punched paper tape, and magnetic tape using special equipment in an accurate and proficient manner
b. Ability to proofread accurately
c. Knowledge of programming languages

## FILING AND FILING SYSTEMS

a. Knowledge of purposes and techniques of alphabetic correspondence and systems
b. Familiarity with numeric, alpha-numeric, geographic, subject, and alpha-numeric subject systems and other systems
c. Knowledge of records management practices and procedures
d. File accurately 50-80, 3''x5'' cards in 18 minutes
e. File accurately 70-90 pieces of correspondence in 20 minutes
f. Ability to index a variety of miscellaneous documents shown through successful completion of a practice filing set

## INDEXING

a. Understand purposes of alphabetic indexing
b. Understand rules governing alphabetic indexing
c. Knowledge of methods of retrieval
d. Knowledge of types of systems
e. File accurately 70-90 pieces of correspondence alphabetically in 20 minutes
f. Ability to index a variety of miscellaneous documents shown through successful completion of an alphabetic filing practice set

## INTRODUCTION TO OFFICE SERVICES

a. An understanding of the nature and functions of business and the importance of business activities
b. A knowledge of the functions of banks and other financial organizations as sources of money and credit for business purposes
c. A knowledge of economic risks and an understanding of how insurance protects businesses from heavy loss of property and income
d. An understanding of need for well-trained workers in the business office
e. An understanding of the structure and operation of the American economic system and a sense of the rights and responsibilities of business and the individual

## KEY-PUNCH OPERATION

a. Knowledge of all operative parts of the key-punch machine
b. Ability to stroke at a minimum of 5000 key strokes per hour with 97% accuracy
c. Ability to prepare programmed cards
d. Ability to rekey errors in cards
e. Ability to care for the machine during and after malfunction
f. Understand operation of the verifier

## OFFICE PRACTICE I - GENERAL

a. A proficiency in handling mail, messages, and proper telephone usage
b. Knowledge of business forms and occupational skill in handling them
c. Acquaintanceship with office machines but occupational level should not be expected
d. Knowledge of keeping simple stock records
e. Knowledge of basic duplicating processes

## OFFICE PRACTICE II - GENERAL

a. An occupational Knowledge of visual reproduction techniques
b. A knowledge of business reports and the ability to type them
c. A basic understanding of data processing and its implications upon business
d. A knowledge of banks and banking services
e. An ability to keep simple payroll records
f. An ability to keep simple cash records.

## PAYROLL RECORDS

a. Ability to keep payroll records, including time cards, deduction, earning records, and taxes from source data (100% accuracy)
b. Knowledge of legislation involving payrolls
c. Knowledge of, and ability to prepare, government payroll reports
d. A knowledge of pieces of office equipment involved in preparing payrolls

## POSTING MACHINE OPERATIONS

A. Knowledge of the operative parts of the posting machine
b. Ability to operate the posting machine with occupational proficiency
c. A knowledge of source documents and how each is handled

## PRINCIPLES OF DATA PROCESSING

a. Knowledge of special vocabulary of data processing
b. Understand what data processing is and its importance to business
c. Understand the steps in the data processing cycle
d. Basic knowledge of functions of data processing equipment
e. Knowledge of the functions of a data processing department and of data processing occupations

## PRINCIPLES OF MATHEMATICS

a. Demonstrate knowledge of manual addition, subtraction, multiplication, division
b. Accurately (95% or better) perform calculations of percentages, averages, measurements, and simple money statements involving proficiency in conversion and use of fractions and decimals
c. Knowledge of units of measurement

## RECORD KEEPING

a. Knowledge of basic bookkeeping, including simple entries in double-entry system
b. Knowledge of the nature and application of common business records
c. Average degree of proficiency in completion of common and simple records
d. Demonstrated ability to handle cash transactions accurately (no errors)
e. Knowledge of double-entry bookkeeping. Simple journal and ledger entries
f. Knowledge of source records required for posting

## SKILL TYPING

a. Complete mastery of keyboard and office typing techniques
b. An ability to type manuscripts and self-composed material
c. A thorough knowledge of business letters, forms, and memoranda
d. A proficiency in producing tabular reports from rough draft and typewritten copy
e. Ability to type timed straight copy of average difficulty level for 3- and 5-minute periods
f. Ability to type approximately 39 - 52 net words a minute (NWAM) with no more than 3 errors on straight copy
g. A net production rate a minute (N-PRAM), based on number of problems acceptably completed, from 10-21 and higher

## SPELLING AND VOCABULARY

a. Correct spelling of the more commonly used business English words
b. Know meaning, use, and spelling of general business terms and most frequently used data processing terms
c. Knowledge of rules of punctuation,capitalization, and abbreviations
d. Ability to construct sentences and use phrases and clauses correctly
e. Course unit content knowledge (approximately 90%)

## TABULATING MACHINE OPERATION

a. Knowledge of all operating features of the machine
b. Knowledge of all machine functions
c. Ability to list all steps in the flow of data from a source document to the final report with a complete description of the activity performed at each step

## TABULATING MACHINE WIRING

Ability to apply controlled wiring principles and procedures pertaining to various operations of tabulating machines

### TYPING I

a. Keyboard mastery; understanding of principles and techniques of touch typing
b. Ability to produce neat and attractive typewritten copy
c. Knowledge of how to proofread copy and correct errors
d. Ability to make applications of typing skill to basic letter forms, simple tabulations, simple manuscript typing, simple office forms
e. Knowledge of how to clean typewriter; change ribbons

## SPECIALIZED OFFICE EDUCATION UNITS

### BOOKKEEPING AND ACCOUNTING III

a. Knowledge of columnar journals
b. Ability to handle account classification, posting, controlling accounts
c. Ability to keep payroll records and make journal entries
d. Knowledge of depreciation and depletion and methods of keeping records
e. Knowledge of and ability to handle prepaid and accrued items
f. Knowledge of accounting procedures involved with negotiable paper
g. Knowledge of difference in accounting for sole proprietorship and partnership
h. Ability to satisfactorily keep a simulated set of account books and to complete reports and activities at end of the fiscal period

### BOOKKEEPING AND ACCOUNTING IV

a. Knowledge of accounting in the use of the voucher system
b. Ability to price merchandise and perform accounting procedures involved in inventory control
c. Knowledge of the accounting procedures involved with notes, drafts, and acceptances
d. Knowledge of corporations, stock, dividends, earnings, and accounting control
e. Ability to satisfactorily complete a simulated set of account books involving corporations and work at the end of the fiscal period

### BUSINESS LAW

a. Knowledge of basic business law principles
b. Knowledge of contracts
c. Knowledge of commercial paper and its uses
d. Knowledge of employer-employee law
e. An occupational knowledge of business law vocabulary

### DATA PROCESSING LIBRARY TRAINING

a. Understand the organization and function of a data processing library
b. Knowledge of basic record keeping systems
c. Knowledge of the classification of data processing materials
d. Knowledge of handling and preservation of data processing materials
e. Knowledge of receipt, storage, and issue procedures

## ADMINISTRATIVE OFFICE EDUCATION UNITS

### COMPUTER PROGRAMMING FOR BUSINESS OPERATIONS

a. Knowledge of computer functions
b. Knowledge of programming techniques for business applications
c. Knowledge of flow-charting
d. Knowledge of systems developed and designed
e. Knowledge of input and output control systems, report generators, sorts and merges, monitors and supervisory systems, and simulators

## ECONOMICS OF OFFICE ADMINISTRATION

a. Knowledge of money, prices, and income in relation to business
b. Knowledge of the relationships of labor and business management to productivity and wages
c. Knowledge of the role of the Federal government in relation to regulation and control of business activity and policy
d. Knowledge about taxes and their influence over business and business profits
e. Knowledge about personal finance in relation to Social Security and retirement annuities
f. Knowledge of labor and management relations, labor organizations, and rights of labor
g. Knowledge about business savings, credit, and investments

## MANAGERIAL ACCOUNTING

a. Knowledge of material accounting procedures, labor accounting procedures, and accounting procedures involving overhead
b. Ability to apply the three principal systems of cost accounting: (1) job order, (2) process cost, and (3) standard cost, to production
c. Ability to prepare budgets
d. Ability to satisfactorily complete a simulated set of account books using at least one of the three principal systems of cost accounting

## OFFICE ADMINISTRATION

a. Knowledge of responsibilities and functions of management
b. Knowledge of how to train workers and to work with others
c. Knowledge of general office principles of supervision
d. Knowledge of office costs and methods of control
e. Knowledge of business correspondence, common forms, mailing activities, public relations, and records management
f. Ability to interpret business restrictions and regulations as established in office manuals

# APPENDIX B - TYPICAL MATERIALS FOR INSTRUCTIONAL PURPOSES

## SAMPLE SUGGESTED LESSON PLAN

A good unit of instruction provides various kinds of learning activities that should be coordinated with each other for maximum effect, and an effective teacher's guide can aid in such coordination. Among helpful learning activities are demonstrations, lectures, directed study, supervised practice, and examinations. Many approaches are thus made to the problems in the unit, and the trainee takes a basic step in learning as he solves problems through the approaches. A typical teacher's guide may suggest topics for presentation by using various teaching techniques—lecture, audiovisual presentation, individual or group activities or discussion, formal or informal review, and oral or written examination. Each separate activity should contribute its part to the mastery of the content of the unit.

The sample suggested lesson plan of a teacher's guide presented here is illustrative of suggested methods of unitizing material for class presentation under the appropriate subtopic or topic of a typical course outline. The individual teacher may expand or contract the detail contained in his own personal guide as his particular experience dictates. Rigorous adherence to the format is neither recommended nor intended. It is a helpful instructional aid when new or infrequently occurring subject content is to be presented.

## BOOKKEEPING AND ACCOUNTING I

Lesson XX - Financial Reports, Part B, "Income Statement"
Review: 5 minutes
Lecture and demonstration: 25 minutes
Discussion and preview: 10 minutes
Practice: 20 minutes
Materials: Completed six-column worksheet used in previous lesson or completed six-column worksheet in textbook, two-column statement paper, examples of income statement columns on worksheet, example of income statement.

Topic Outline

- I. Review of preceding lesson
  - A. Preparation of six-column worksheet
  - B. Income columns of worksheet
- II. Need for financial statements
  - A. Importance of income statement
  - B. Business uses of income statement
- III. Preparation of income statement
  - A. Form used
  - B. Heading of income statement
  - C. Completion of income statement using information taken from income columns of worksheet
    - 1. Income section of income statement
    - 2. Expense section of income statement
    - 3. Finding net income or net loss
  - D. Ruling the income statement
- IV. Examples of income statement
- V. Discussion and questions
- VI. Practice in preparing income statements*

*Problems 9-1 and 9-2, page 108, 20th Century Bookkeeping and Accounting, 22nd Edition.

References

Bridenbaugh, Vachel E.; Lins, Angeline G.; and Elwell, Fayette H. Bookkeeping Principles. New York: Pitman Publishing Corp., 1958. pp. 44-48.

Carlson, Paul A.; Forkner, Hamden, L.; and Boynton, Lewis D. 20th Century Bookkeeping and Accounting. 22nd ed. Cincinnati, Ohio: South-Western Publishing Co., Inc., 1962.

Freeman, M. Herbert; Hanna, J. Marshall; and Kahn, Gilbert. Gregg Bookkeeping and Accounting. 3rd ed. New York: McGraw-Hill Book Co., Inc., 1963. pp. 84-90.

Janis, Arthur, and Morris, Miller. Fundamentals of Modern Bookkeeping. New York: Pitman Publishing Corp., 1965. pp. 137-141.

Olson, C. Milton; Zelliot, A. Ernest; and Leidner, E. Walter. Introductory Bookkeeping. 3rd ed. Englewood Cliffs, N. J.: Prentice-Hall, Inc., 1961. pp. 161-166.

# APPENDIX C - INSTRUCTIONAL MATERIALS

The following instructional materials have not been previously listed in the course units. They are included here to assist the teacher in finding appropriate and useful supplementary materials. Although this list is by no means exhaustive, it will serve as a convenient initial source of many helpful materials.

For the further convenience of the teacher who may wish to find materials appropriate to a particular subject area quickly, many of the items have been assigned codes which indicate the subject area(s) for which any particular item appears most appropriate. The codes do not specifically refer to titles of units as they appear in the curricula.

| Code | Subject Area |
|---|---|
| (AC) | Adding and Calculating Machines |
| (OM) | Applied Office Mathematics |
| (BA) | Bookkeeping and Accounting |
| (BBP) | Business Behavior and Psychology |
| (BC) | Business Communication and Language Skills |
| (BP) | Business Principles and Management |
| (CP) | Computer Programming for Business Applications |
| (DT) | Data Typing |
| (FS) | Filing and Filing Systems |
| (IO) | Introduction to Office Services |
| (OA) | Office Administration |
| (OP) | Office Practice |
| (PDP) | Principles of Data Processing |
| (SV) | Spelling and Vocabulary |
| (T) | Typing |
| (IN) | Instructor's Materials |

NOTE: The addresses of publishers, producers, and additional sources of materials may be found in APPENDIX E.

## TEXTS AND REFERENCES

(AC, BA, OM) Agnew, P. L. *Machine Office Practice.* Cincinnati, Ohio: South-Western Publishing Co., Inc., 1959.

(OM) Allendoerfer, C. B., and Oakley, C.O. *Principles of Mathematics.* New York: McGraw-Hill Book Co., Inc., 1955.

(IN) Archer, Fred C.; Brecker, Raymond F.; and Frakes, John C. *General Office Practice. 2nd ed.* New York: McGraw-Hill Book Co., Inc., 1963.

(BC) Aurner, Robert R., and Burtness, Paul S. *Effective English for Business. 5th ed.* Cincinnati, Ohio: South-Western Publishing Co., Inc., 1962.

(OP, T) Bell, Robert P. *Typewriting Office Practice for Colleges.* Cincinnati, Ohio: South-Western Publishing Co., Inc., 1963.

(BBP, IN) Bellows, R. *Psychology of Personnel in Business and Industry. 3rd ed.* Englewood Cliffs, N.J.: Prentice-Hall, Inc., 1961.

(OP, T) Bendixen, E. T., and Ricksen, H. B. *Production Typing. 2nd ed.* Cincinnati, Ohio: South-Western Publishing Co., Inc., 1958.

(PDP, BP) Bethel, Lawrence L.; Atwater, Franklin S.; Smith, George H. E.; and Stackman, Harvey A., Jr. *Industrial Organization and Management.* New York: McGraw-Hill Book Co., Inc., 1962.

(BA, IN) Boynton, L. D. *Methods of Teaching Bookkeeping and Accounting. 2nd ed.* Cincinnati, Ohio: South-Western Publishing Co., Inc., 1964.

(BC, IN) Brown, L. *Communicating Facts and Ideas in Business.* Englewood Cliffs, N. J.: Prentice-Hall, Inc., 1961.

(BC) Cox, H. L. *Coping with Correspondence.* New York: Sterling Publishing Co., Inc., 1962.

(IN) Daughtrey, Anne Scott. *Methods of Basic Business Education.* Cincinnati, Ohio: South-Western Publishing Co., Inc., 1965.

(IN) Delta Pi Epsilon. *Bibliography of Teaching Materials in Business Education.* New York: New York University Press.

(IN) Delta Pi Epsilon. *The Business Teacher Learns from Cases.* Cincinnati, Ohio: South-Western Publishing Co., Inc., 1957.

(BA) *Dictionary of Bookkeeping and Accounting Terminology. rev. ed.* Cincinnati, Ohio: South-Western Publishing Co., Inc., 1962.

(OM, IN) Dutton, W. H., and Adams, L. J. *Arithmetic for Teachers.* Englewood Cliffs, N. J.: Prentice-Hall, Inc., 1961.

(IN, OM) Fowler, F. P., and Sandberg, E. W. *Basic Mathematics for Administration.* New York: John Wiley and Sons, Inc., 1962.

(IN) Green, H. *Activities Handbook for Business Teachers.* New York: McGraw-Hill Book Co., Inc., 1958.

(IN) Hardaway, M. Testing and Evaluation in Business Education. 3rd ed. Cincinnati, Ohio: South-Western Publishing Co., Inc., 1966. 0

(IN) Harms, H. Methods in Vocational Business Education. 2nd ed. Cincinnati, Ohio: South-Western Publishing Co., Inc., 1963. 0

(OA) Hegarty, E. How to Build Job Enthusiasm. New York: McGraw-Hill Book Co., Inc., 1960.

(IN) Huffman, H., ed., and others. The Clerical Program in Business Education—The American Business Education Yearbook. New York: New York University Press, 1959.

(PDP) Jaski, Tom. Electronics in Business Machines. New York: A. S. Barnes and Co., 1963. 0

(BA, IN) Johnson, Eldred A. Accounting Systems in Modern Business. New York: McGraw-Hill Book Co., Inc., 1959.

(IN, PDP, OP) Kahn, Gilbert; Yerian, Theodore; and Stewart, Jeffrey R. Progressive Filing and Records Management. New York: McGraw-Hill Book Co., Inc., 1962.

(BA) Kanzer, E. M., and Schaaf, W. L. Essentials of Business Arithmetic. Boston: D. C. Heath & Co., 1960.

(IN) Lamb, Marion M. Your First Year of Teaching Typewriting. 2nd ed. Cincinnati, Ohio: South-Western Publishing Co., Inc., 1959.

(PDP, IN) Leeson, Daniel N., and Dimitry, Donald L. Basic Programming Concepts and the IBM 1620 Computer. New York: Holt, Rinehart and Winston, Inc., 1962.

(BBP, OA) MacGibbon, E. G. Fitting Yourself for Business. 4th ed. New York: McGraw-Hill Book Co., Inc., 1961.

(OM, IN) McCollough, Celeste, and Van Atta, Loche. A Programmed Introduction to Statistical Concepts. New York: McGraw-Hill Book Co., Inc., 1963.

(BC, SV) Modern English Spelling. 2nd ed. A Programmed Textbook. New York: TMI Grolier, 1961.

(IN) Monroe, Alfred J. Digital Processes for Sampled Data Systems. New York: John Wiley and Sons, Inc., 1962.

(IN) Nanassy, L. C., ed. Business Education Index. Delta Pi Epsilon, Annual issues since 1940.

(IN) Nolan, C. A., and Hayden, Carlos K. Principles and Problems of Business Education. 2nd ed. Cincinnati, Ohio: South-Western Publishing Co., Inc., 1958.

(BC, SV) Punctuation, Modern English Series. 2nd ed. A Programmed Textbook. New York: TMI Grolier, 1961.

(T, OP) Reynolds, H., and Skimin, E. Office Practice Typewriting. New York: McGraw-Hill Book Co., Inc., 1960.

(OM) Rosenberg, R. R. Business Mathematics. 3rd ed. New York: McGraw-Hill Book Co., Inc., 1964. 0

(IN) Russon, Alien R., and Wanous, S. J. Philosophy and Psychology of Teaching Typewriting. Cincinnati, Ohio: South-Western Publishing Co., Inc., 1960.

(DP) Salmon, Lawrence. IBM Machine Operation and Wiring. Belmont, Calif.: Wadsworth Publishing Co., 1962.

(BC) Schaffer, V., and Shaw, H. McGraw-Hill Handbook of English. 2nd ed. New York: McGraw-Hill Book Co., Inc., 1960.

6 (DP) Schmidt, R. N., and Meyers, W. E. Electronic Business Data Processing. New York: Holt, Rinehart and Winston, Inc., 1963.

(SV, OP) Spelling Record Set No. 900. New York: Dictation Disc Co.

(IN) Tonne, H. A. Principles of Business Education. 3rd ed. New York: McGraw-Hill Book Co., Inc., 1960.

(IN) ____________; Popham, E.; and Freeman, M. H. Methods of Teaching Business Subjects. 3rd ed. New York: McGraw-Hill Book Co., Inc., 1962.

(T) Typing Homework Series. Self-Study Workbook. 30 assignments. Huntington, N. Y.: Educational Developmental Laboratories.

(BBP) Vanderbilt, A. Complete Book of Etiquette. rev. ed. New York: Doubleday & Co., 1958.

(BC, SV, T, OP) Websters' Third New International Dictionary of the English Language. Springfield, Mass.: G. & C. Merriam Co., 1961.

## PERIODICALS, GUIDES, AND DIRECTORIES

It is suggested that the teacher become acquainted with some of the following materials. Their contents are both specific and general and may be applicable to several areas.

Administrative Management. Geyer-McAllister, Inc., 212 Fifth Avenue, New York, N. Y. 10010

American Business. 4660 Ravenswood Ave., Chicago, Ill. 60640

Audio-Visual Aids for Data Processing Systems and Automation. 1963, Data Processing Management Association, Park Ridge, Ill. 60068

Automation. A Penton Publication, Penton Building, Cleveland, Ohio. 44013

A-V Index, The. Audio-Visual Research Institute, 1346 Broadway, Detroit, Mich. 48226

Balance Sheet, The. South-Western Publishing Co., Inc., 5101 Madison Rd., Cincinnati, Ohio. 45227

Business Automation. OA Business Publications, Inc., 288 Park Avenue West, Elmhurst, Ill. 60126

Business Education World. McGraw-Hill Book Co., Inc., 330 W. 42nd St., New York, N. Y. 10036

Business Management. Management Magazines, Inc., 22 West Putnam Ave., Greenwich, Conn. 06830

Business Newsmagazine. The Alsen Publishing Co., 1445 N. Fifth St., Milwaukee, Wis. 53212

Business Screen. Business Screen Magazine, Inc., 7064 Sheridan Rd., Chicago, Ill. 60626

Business Week. McGraw-Hill Book Co., Inc., 330 W. 42nd St., New York, N. Y. 10036

Check List of All Available Teaching Aids. Prentice-Hall, Inc., Englewood Cliffs, N. J. 07632

Data Processing Yearbook. American Data Processing, Inc., 2200 Book Tower, Detroit, Mich. 48226

Datamation. F. D. Thompson Publications, Inc., 141 E. 44th St., New York, N. Y. 10017

Directory of Films about Property, Casualty and Surety Insurance. Insurance Information Institute, 110 William St., New York, N. Y. 10038

Educators Guide to Free Films. Educators Progress Service, Dept. AVG, Randolph, Wis. 53956

Educators Guide to Free Slidefilms. Educators Progress Service, Dept. AVG, Randolph, Wis. 53956

Financial Executive. Financial Executives Institute, 50 W. 44th St., New York, N. Y. 10036

Journal of Accountancy. American Institute of Certified Public Accountants, 666 Fifth Ave., New York, N. Y. 10019

Journal of College Placement. College Placement Council, Inc., 35 E. Elizabeth Ave., Bethlehem, Pa. 18018

Journal of Data Management. Data Management Association, 524 Busse Highway, Park Ridge, Ill. 60068

Journal of the American Society of Training Directors. American Society of Training Directors, 2020 University Ave., Madison, Wis. 53705

Modern Office Procedures. Industrial Publishing Corp., 812 Huron Road, Cleveland, Ohio. 44115

Nations Business. U. S. Chamber of Commerce, 1615 H St., NW., Washington, D. C. 20006

Occupations in Electronic Data-Processing Systems. U. S. Department of Labor, 1959. U. S. Government Printing Office, Washington, D. C. 20402

Office. Office Publications, 60 E. 42nd St., New York, N. Y. 10017

Pitmanite. Pitman Publishing Corp., 20 E. 46th St., New York, N. Y. 10036

Reproduction Methods for Business and Industry - RM. Gellert-Wolfman Publishing Co., 33 W. 60th St., New York, N. Y. 10023

Systems. United Business Publications, Inc., 200 Madison Ave., New York, N. Y. 10016

Today's Secretary. McGraw-Hill Book Co., Inc., 330 W. 42nd St., New York, N. Y. 10036

Typewriting News. South-Western Publishing Co., Inc., 5101 Madison Rd., Cincinnati, Ohio. 45227

The Typing Teacher. 4006 Carlisle Ave., Baltimore, Md. 21216

Visual Aids for Business and Economic Education. rev. 1965. (Monograph 92). South-Western Publishing Co., Inc., 5101 Madison Rd., Cincinnati, Ohio. 45227

## FILMS AND FILMSTRIPS

### Abbreviations Used in Descriptions

BW - Black & White
Col - Color
FS - Filmstrip
Min. - running time in minutes
MP - Motion Picture
Si - Silent
So - Sound

| Subject Code (See Page 88) | |
|---|---|
| (BA ) | Accounting: Basic Procedures. MP-So-16mm-Col-11 min. Coronet Instructional Films. |
| (AC, BA ) | Accounting and Calculating Machines. MP-So-BW-12 min. Teaching Aids Exchange. |
| (BA) | Accounting Cycle Direct Ledger Entry, The. FS-Si. Business Education Films. |
| (BA) | Accounting Filmstrips with Automation Application. FS-So-35mm. Remington Rand. |

| | |
|---|---|
| (BA) | Accounting Series. 11 FS-Si-BW. McGraw-Hill Book Co., Inc. |
| (PDP) | Automatic Computers. MP-So-Col-16 min. International Business Machines. |
| (PDP) | Automation. A CBS NEWS ''See It Now'' Production. MP-So-BW-84 min. McGraw-Hill Book Co., Inc. |
| (BA, OP, PDP) | Automation in Today's Modern Office. FS-Si-35mm-20 min.-Col. Friden, Inc. |
| (PDP) | Automation of B. J. Blurch, Inc., The. MP-So-Col-16 min. Data Processing Management Association International Headquarters. |
| (BA, IO) | Back of Every Promise. MP-So-16mm-30 min. Continental Illinois National Bank and Trust Company. |
| (BA, BP) | Banks and Credit. MP-So-BW-10 min. Coronet Instructional Films. |
| (BA) | Base and Place. MP-So-BW-30 min. University of Colorado. |
| (T, OP) | Basic Typing - Machine Operation. MP-So-BW-30 min. United World. |
| (T, OP) | Basic Typing - Methods. MP-So-16mm-31 min. Castle Films. |
| (PDP, AC) | Beauty of It, The. FS-So-Col-30 min. Burroughs Corporation. |
| (T, OP) | Better Typing at Your Fingertips. MP-So-Col-30 min. Modern Talking Picture Service. |
| (BA) | Bookkeeping and Accounting. MP-So-BW-11 min. Carl F. Mahnke Productions. |
| (BA) | Bookkeeping and Accounting Errors. FS-Si-BW. Business Education Films. |
| (BA) | Bookkeeping and You. MP-So-Col/BW-11 min. Coronet Instructional Films. |
| (BA) | Bookkeeping Cycle, The. FS-Si. Society for Visual Education, Inc. |
| (BA) | Bookkeeping Series. 6 FS-Col. McGraw-Hill Book Co., Inc. |
| (BC, SV) | Build Your Vocabulary. MP-So-Col/BW-10 min. Coronet Instructional Films. |
| (T, OP) | Building Typing Skills. MP-So-Col&BW-11 min. Coronet Instructional Films. |
| (BA, BC) | Business Education Series. 6 FS-Col. McGraw-Hill Book Co., Inc. |
| (BBP) | Business Etiquette Series. 11 FS-BW. McGraw-Hill Book Co., Inc. |
| (OM) | By the Numbers. MP-So-Col-16 min. International Business Machines. |
| (PDP, AC) | Cards That Count, The. MP-So-Col-15 min. International Business Machines. |
| (PDP) | Careers in Business Data Processing. MP-So-Col-16 min. U. of Southern California. |
| (BA, PDP) | Collection of Data. FS-So-Col-22 min. City College of New York. |
| (PDP) | Computer Programming. MP-So-BW-26 min. System Development Corporation. |
| (BA) | Controlling Accounts. FS-Si. Business Education Films. |
| (AC, PDP) | Costs That Make Sense. MP-So-Col-15 min. International Business Machines. |

| | |
|---|---|
| (BBP, OA ) | Developing Responsibility. MP-So-16mm-11 min.-Col. Coronet Instructional Films. |
| (PDP, BA) | Distribution Accounting. FS-So-Col. International Business Machines. |
| (T, OP) | Do You Know Your Typewriter? FS-Si. Society for Visual Education. |
| (OM) | Donald in Mathmagic Land. MP-So-Col-28 min. University of Michigan. |
| (T, BC) | Eight Parts of a Business Letter. MP-So-Col/BW-11 min. Business Education Films. |
| (T) | Electric Typing Time. MP-So-Col-20 min. International Business Machines. |
| (PDP, BA) | Electronic Bank Bookkeeping on the Job. MP-So-Col-12 min. Burroughs Corporation. |
| (PDP, FS) | Filing Procedures in Business. MP-So-Col/BW-11 min. Coronet Instructional Films. |
| (BC) | Fundamentals of English Series. 6 FS-Si-Col. McGraw-Hill Book Co., Inc. |
| (OM) | General Mathematics - Business Mathematics Course. 25 FS-Si-BW. (Instructor's Manual) Educational Developmental Laboratories. |
| (BC) | Grammar: Verbs and Ways We Use Them. MP-So-Col/BW-11 min. Coronet Instructional Films. |
| (T, OP) | Gregg Typewriting Series. Set I and Set II. FS-So-12 min. per filmstrip. McGraw-Hill Book Co., Inc. |
| (BA) | How To Balance Accounts. FS-Si. Business Education Films. |
| (BBP, OA) | How To Be Well Groomed. MP-So-Col/BW-10 min. Coronet Instructional Films. |
| (BBP, OA ) | How To Give and Take Instructions. MP-So-16mm-11 min.-Col. Coronet Instructional Films. |
| (BBP, OP) | How To Investigate Vocations. MP-So-16mm-11 min.-Col. Coronet Instructional Films. |
| (BBP, OA) | How To Keep a Job. MP-11 min. Coronet Instructional Films. |
| (BA, IO) | How To Use Your Bank. MP-So-16mm-10 min.-BW. Business Education Films. |
| (BC) | How To Write Effectively. MP-So-16mm-BW-11 min. Coronet Instructional Films. |
| (OA) | Human Relations in Supervision. 24 FS-So-6 min. per filmstrip. McGraw-Hill Book Co., Inc. |
| (PDP, CP) | Integrated Data Processing. MP-So-Col.-35 min. Business Education Films. |
| (OM, BA) | Interest--60 Day 6% Method--Parts I and II. FS-Si. Business Education Films. |
| (BA) | Introduction to Accounting. FS-Si. Business Education Films. |
| (BA) | Journal--First Lesson, The. MP-Si. Business Education Films. |
| (T, OP) | Know Your Typewriter. MP-So-Col/BW-11 min. Coronet Instructional Films. |
| (BC, SV) | Look It Up! (Dictionary Habits). MP-So-Col/BW-11 min. Coronet Instructional Films. |

| | |
|---|---|
| (PDP) | Magic Window--Principles of Punched Card Accounting, The. FS-So-Col. International Business Machines. |
| (BBP) | Manner of Speaking, A. MP-So-BW/Col.-28 min. Indiana Bell Telephone Company. |
| (BA, OM) | Meaning of Percentages. MP-So-BW-10 min. Business Education Films. |
| (BC) | Message to No One, A. MP-So-Col.-25 min. Champion Paper and Fiber Co. (Hamilton, Ohio.) |
| (PDP) | Methods Analysis. MP-So-BW-10 min. McGraw-Hill Book Co., Inc. |
| (AC) | Modern Business Machines. MP-So-20 min. Teaching Aids Exchange. |
| (BBP, OA) | Office Courtesy--Meeting the Public. MP-So-Col/BW-12 min. Encyclopaedia Britannica Films, Inc. |
| (BBP, OA) | Office Etiquette. MP-So-15 min. Encyclopaedia Britannica Films, Inc. |
| (OA) | Office Supervisor's Problems. Six 8 min. films with Discussion Leader's Manual. MP-So-Col/BW. McGraw-Hill Book Co., Inc. |
| (OA) | Office Supervisor's Problems Series, The. 6MP-So-Col. McGraw-Hill Book Co., Inc. |
| (BBP, OA) | Office Teamwork. MP-So-Col/BW-12 min. Encyclopaedia Britannica Films, Inc. |
| (BA, IO) | Pay to the Order of. MP-So-10 min. Public Relations Council, American Bankers Association. |
| (BBP) | Personal Qualities to Job Success. MP-So-11 min. Coronet Instructional Films. |
| (BBP, IO) | Polish Up Your Personality. FS-Si. Society for Visual Education, Inc. |
| (BA) | Posting--One Journal, One Ledger. FS-Si. Business Education Films. |
| (BBP, OA) | Public Relations. MP-So-16mm-17 min.-BW. Business Education Films. |
| (T, OP) | Ready to Type. MP-So-16mm-11 min.-Col. Coronet Instructional Films. |
| (PDP, BA) | Retail Accounts Receivable. FS-So-Col. International Business Machines. |
| (PDP) | Serving Through Better Systems. FS-So-Col.-17 min. Burroughs Corporation. |
| (T, OP) | Shortcuts in Typing. MP-So-30 min. Educators Progress Service. |
| (IO, BP) | Sound Business. FS-So-BW. Continental Illinois National Bank and Trust Co. |
| (OA) | Supervisory Problems in the Office. 12 FS-So-8-11 min. per filmstrip. McGraw-Hill Book Co., Inc. |
| (PDP) | Technology and You. MP-So-Col.-13 min. University of Michigan. |
| (AC, BA, OM) | Ten-Key Touch Training Course. 25 FS-Si-BW. (Operators and Instructor manuals) Educational Developmental Laboratories. |
| (AC, OP) | The Stencil. So-35mm-22 min.-Col.-FS. A. B. Dick Company. |
| (T, OP) | Tips on Typing. MP-So-21 min. Underwood Corporation. |
| (T, OP) | Tricks of the Trade for Typists. MP-Si-15 min. Teaching Aids Exchange. |
| (T, OP) | Type Right. MP-Si-16mm-10 min. Teaching Aids, Inc. |

| | |
|---|---|
| (T) | Typing-Keyboard Introduction Course. 2nd ed. 10 FS-Si-BW. (Student and Instructor manuals) Educational Developmental Laboratories. |
| (T, OP) | Typing-Skill Development Course. 25 FS-Si-BW. (Student and Instructor manuals) Educational Developmental Laboratories. |
| (BC) | Using Parts of Speech. Si-35mm-FS-Col. Jam Handy Organization. |
| (BC, OP) | Using Punctuation and Capital Letters. Si-35mm-FS-Col. Jam Handy Organization. |
| (OP, IO, BP) | Vocational Office Training. MP-So-16mm-10 min.-BW. Business Education Films. |
| (OP, IO, BP) | What Is Business? MP-So-16mm-11 min.-Col. Coronet Instructional Films. |
| (OP, IO, BP) | What Is a Contract? MP-So-16mm-11 min.-Col. Coronet Instructional Films. |
| (BA, BP) | What Is a Corporation? MP-So-Col/BW-11 min. Coronet Instructional Films. |
| (PDP) | What is EDP? MP-So-Col.-13 min. International Business Machines. |
| (BC) | Why Punctuate? MP-So-11 min. McGraw-Hill Book Co., Inc. |
| (BC) | Writing Better Business Letters. MP-So-Col/BW-10 min. Coronet Instructional Films. |
| (BBP, OA) | You're on the Team. MP-15 min. Eastman Kodak Company. |

## ADDITIONAL INSTRUCTIONAL MATERIALS

| | |
|---|---|
| (BC, PDP, IN) | Automation Dictionary (A Booklet) (Philadelphia:) Minneapolis-Honeywell Regulator Co., Industrial Division. |
| (BA) | Bookkeeping Procedure Visualized. (21 ½" x 27 ½" chart, BW) National Blank Book Co. |
| (BA) | Bookkeeping Transparencies (8" x 10") for overhead projector. (Cincinnati:) South-Western Publishing Co., Inc., 1962. |
| (BA) | Bookkeeping Wall Charts. (48" x 52", 3 colors) George F. Cram Company, Inc. |
| (IO, OP) | Careers in Business. (18" x 24") (Cincinnati:) South-Western Publishing Co., Inc. |
| (PDP, BP) | Careers in Data Processing. (A Booklet) Project on Information Processing. NSTA, Montclair State College (Upper Montclair, N. J.) |
| (T, OP) | Cartoons. (8¼" x 10", for typing) National Association of Secondary School Principals. |
| (T, OP) | Cartoons. (8½" x 11") Ohio Typewriter Service. |
| (BA) | Cartoons. (8" x 10", BW for Bookkeeping) Special Teaching Aids. |
| (T, OP) | Case of the New, New Ribbon, The. (30" x 40" Poster, Col.) Poster Visual Aids. |
| (OP, IO) | Clerical and Sales Occupations. (27" x 38") B'nai B'rith Vocational Service Bureau. |
| (OM) | Facts for Math. (Teachers Ref.) Automobile Manufacturers Association. |

| | |
|---|---|
| (PDP, FS) | Filing Simplified. (17" x 22", Col.) Smead Manufacturing Co. |
| (T, OP) | Gregg Typing Picture-Posters-Letter Style Series. (New York:) McGraw-Hill Book Co., Inc. |
| (T, OP) | Gregg Typing Records--Keyboard Series. Boxes 1-4 inclusive. (New York:) McGraw-Hill Book Co., Inc. |
| (BA, IO, BP) | Income Tax Kits. (32" x 44") Internal Revenue Service or post office. |
| (T, OP) | Keyboard Wall Chart. Education Research Committee. |
| (T, OP) | Keyboard Wall Chart. Royal Typewriter Co. |
| (T, OP) | Motivation Chart for Typewriting. (22" x 32") Teaching Aids Exchange. |
| (T, OP) | Office Experience--Typewriters. (Demo. Kit. 40 min.) Underwood Corporation. |
| (T, OP) | Records for Part I--20th Century Typewriting. 8th ed. (Cincinnati, Ohio:) South-Western Publishing Co., Inc. |
| (BA, IO) | Social Security Charts. (Kit: 32" x 44" charts, teacher pamphlets) (Bureau of) Internal Revenue Service. |
| (T, OP) | Tapes for Part I--20th Century Typewriting. 8th ed. (Cincinnati, Ohio:) South-Western Publishing Co., Inc. |
| (T, OP) | Typewriter Keyboard Chart. (20 3/8" x 13") E. D. Crim Publications. |
| (T, OP) | Typewriter Keyboard Test. R. C. Allen Business Machines, Inc. |
| (T, OP) | Typewriter Kit No. 1. (Posters, Col.) Educational Supplies and Services. |
| (T, OP) | Typewriting Display Kits. (Posters, Col.) Educational Supplies and Services. |
| (T, OP) | Typewriting Posture Posters. American Book Co. |
| (T, OP) | Typewriting Rhythm Records--Progressive Speed Series. (New York:) McGraw-Hill Book Co., Inc. |
| (T, OP) | Typing Cartoons. (8½" x 11", Red and Black) Poster Visual Aids. |
| (T, OP) | Typing Do's and Duds. (8½" x 11", Red and Black) Poster Visual Aids. |
| (T, OP) | Typing Habits, Ugh! (8" x 10") Poster Visual Aids. |
| (T, OP) | Typingo. (Typing game) Russell W. Kraning. |
| (BA) | Vu-Graph Bookkeeping Visual Aid Kit, The. (8½" x 11" transparencies) Charles Beseler Co. |
| (T, OP) | What Every Typist Should Know About Copies in Office Work. (Speed and Accuracy Tests) Ditto, Inc. |

## APPENDIX D - GUIDANCE AND APTITUDE TESTS AVAILABLE

Code
C - College Level
S - Secondary Level
W - Workers Level

### CLERICAL

| Level | Title | Authors | Publisher |
|---|---|---|---|
| SW | APTITUDE TESTS FOR OCCUPATIONS<br>(4) Clerical Routine Aptitude | Roeder, Graham | California Test Bureau |
| W | (5) Computational Aptitude | | |
| W | SURVEY OF WORKING SPEED & ACCURACY | Ruch | California Test Bureau |
| W | MACQUARRIE TEST FOR MECHANICAL ABILITY | MacQuarrie | California Test Bureau |
| W | SRA CLERICAL APTITUDES | Richardson, Bellows, Henry & Co., Inc. | Science Research Associates |
| SCW | GENERAL CLERICAL TEST | Test Division Staff | Psychological Corporation |
| SCW | DIFFERENTIAL APTITUDE TESTS<br>Clerical Speed and Accuracy | Bennett, Seashore, Wesman | Psychological Corporation |
| SCW | MINNESOTA CLERICAL TEST | Andrews, Paterson, Longstaff | Psychological Corporation |
| S | ACCOUNTING ORIENTATION TEST | | American Institute of Certified Accountants |
| W | CLERICAL APTITUDE TEST, JUNIOR GRADE | O'Rourke | Psychological Institute |
| S | DETROIT CLERICAL APTITUDES EXAMINATION | Baker, Voelker | Bobbs-Merrill Publishing Co. |
| W | CLERICAL TEST D | Benge | Management Service Company |
| W | EXAMINATION IN CLERICAL WORK | Thurstone | Harcourt, Brace, & World, Inc. |
| SW | SURVEY TEST OF ENGLISH USAGE, FORMS E, G, H, N | O'Rourke | Psychological Institute |
| W | CLERICAL APTITUDE TEST | Hay | Aptitude Test Service |
| W | MARTIN TESTS<br>Alphabetizing<br>Name Checking<br>Number Checking<br>Number Facility<br>Numerical Operations<br>Numerical Order<br>Vocabulary<br>Arithmetic Reasoning | Martin | Martin Publishing Co. |

| Level | Title | Authors | Publisher |
|---|---|---|---|
| S | RICHARDSON PEDERSON TESTS FOR TYPISTS | | Science Research Associates |
| S | SKIL-TESTING KIT FOR TYPISTS AND CLERKS | Martin | Martin Publishing Co. |
| S | SKIL-TESTING KIT FOR BOOKKEEPING CLERKS | Martin | Martin Publishing Co. |
| S | TURSE CLERICAL APTITUDE TEST | Turse | Harcourt, Brace, & World, Inc. |
| SC | DETROIT GENERAL APTITUDE EXAMINATION | Baker, Voelker, Crockett | Bobbs-Merrill Publishing Co. |
| SCW | DIFFERENTIAL APTITUDE<br>Tests<br>Language Usage | Bennett, Seashore, Wesman | Psychological Corporation |
| SW | SRA TYPING ADAPTABILITY TEST | Tydlaska, White | Science Research Associates |
| | GENERAL | | |
| SC | GORDON PERSONAL PROFILE | Gordon | World Book Co. |
| SCW | FLANAGAN APTITUDE CLASSIFICATION TESTS | Flanagan | Science Research Associates, Inc. |
| S | THURSTONE EMPLOYMENT TESTS | | Harcourt, Brace, & World, Inc. |
| SCW | NATIONAL BUSINESS ENTRANCE TESTS | | National Business Education Associatio |
| S | AIA HIGH SCHOOL ORIENTATION TEST | | Amer. Inst. of Certified Public Accountants |
| | ENGLISH SKILLS | | |
| SW | SRA LANGUAGE SKILLS | Richardson, Pedersen and Bellows | Science Research Associates |
| S | ENGLISH TEST | Barrett, Ryan, Schrammel | Harcourt, Brace, & World, Inc. |
| SW | BARRETT-RYAN-SCHRAMMEL ENGLISH TEST | | World Book Co. |
| S | IOWA GRAMMAR INFORMATION TEST--FORMS A & B | | State University of Iowa |
| SW | GREEN-STAPP LANGUAGE ABILITIES TEST | | Harcourt, Brace, & World, Inc. |
| SCW | ANALYTICAL SURVEY OF ENGLISH & FUNDAMENTALS | Campbell-Guiler | Bobbs-Merrill Publishing Co. |
| | COMPUTATIONAL SKILLS | | |
| SW | SCHORLING-CLARK-POTTER HUNDRED PROBLEM ARITHMETIC TEST | | Harcourt, Brace, & World, Inc. |

| Level | Title | Authors | Publisher |
|---|---|---|---|
| SW | SNADER GENERAL MATHEMATICS TEST | | Harcourt, Brace, & World, Inc. |
| SW | DAVIS TEST OF FUNCTIONAL COMPETENCE IN MATHEMATICS | | Harcourt, Brace, & World, Inc. |
| SW | MADDEN-PEAK ARITHMETIC COMPUTATION TEST | Madden, Peak | Harcourt, Brace, & World, Inc. |
| SW | SRA ARITHMETICAL REASONING TEST | Cardall | Science Research Associates |
| S | BASIC SKILLS IN ARITHMETIC TEST | | Science Research Associates |
| S | ANALYTICAL SURVEY IN COMPUTATIONAL ARITHMETIC | Christofferson<br>Guiler | Bobbs-Merrill Publishing Co. |
| S | AMS ARITHMETIC TEST | | AMS Education Division |

## Addresses of Publishers

American Institute of Certified Public Accountants, 270 Madison Avenue, New York, N.Y. 10016

Administrative Management Society, Willow Grove, Pennsylvania 19090

Aptitude Test Service, Swarthmore, Pennsylvania 19081

Bobbs-Merrill Publishing Co., Inc., 1720 East 38th Street, Indianapolis, Indiana 46218

California Test Bureau, 5916 Hollywood Boulevard, Los Angeles, California 90028

Harcourt, Brace, & World, Inc., Book Company, 757 Third Ave., New York, N. Y. 10017

Management Service Company, 3136 North 34th Street, Philadelphia, Pennsylvania 19132

Martin Publishing Company, Skil-Tests, Box 481,La Mesa, California 92041

National Business Education Association, 1201 16th Street, N. W., Washington, D. C. 20006

The Psychological Corporation, 304 East 45th Street, New York, New York 10017

The Psychological Institute, Post Office Box 1118, Lake Alfred, Florida 33850

Science Research Associates, 57 West Grand Avenue, Chicago, Illinois 60610

State University of Iowa, Bureau of Educational Research, Extension Division, Iowa City, Iowa 52240

## APPENDIX E - SOURCES OF EDUCATIONAL MATERIALS

Materials listed in this guide are obtainable from the following sources. Some of these sources may not have been referred to elsewhere, but all provide teaching materials of varying kinds.

Academic Press Inc., 111 Fifth Ave., New York, N. Y. 10003

Addison, Wesley, Publishing Co., Inc., Reading, Mass. 01867

Administrative Management Society, Bank and Trust Company of Old York Road, Lock Box "W," Willow Grove, Pa. 19090

Advertising Federation of America, 655 Madison Ave., New York, N. Y. 10021

Aetna Life Affiliated Companies, Information and Education Dept., 151 Farmington Ave., Hartford, Conn. 06115

Alden Films, 5113 16th Ave., Brooklyn, New York 11204

Allen, R. C., Business Machines, Inc., 678 Front Ave., NW, Grand Rapids, Mich. 49404

Allied Publishers, Inc., 659 Morgan Building, 720 S.W. Washington, Portland, Oregon 97205

Allyn and Bacon Inc., 150 Tremont St., Boston, Mass. 02111

Alsen Publishing Co., The, 1445 N. Fifth St., Milwaukee, Wis. 53212

American Association of School Administrators, 1201 16th St., NW, Washington, D. C. 20036

American Bankers Association, 12 E. 36th St., New York, N. Y. 10016

American Book Company, 55 Fifth Ave., New York, N. Y. 10003

American Data Processing, Inc., 2200 Book Tower, Detroit, Mich. 48226

American Economic Foundation, 51 E. 42nd St., New York, N. Y. 10017

American Institute of Certified Public Accountants, 666 Fifth Ave., New York, N. Y. 10019

American Management Association, Inc., 135 W. 50 Street, New York, N. Y. 10020

American Society of Training Directors, 2020 University Ave., Madison, Wis. 53705

Aptitude Test Service, P. O. Box 239, Swarthmore, Pa. 19081

Association Films, 347 Madison Ave., New York, N. Y. 10017

Association of Better Business Bureaus, Inc., 704 Chrysler Building, New York, N. Y. 10017

Audio-Visual Associates, 2161 Milburn Ave., Baldwin, N.Y. 11512

Audio-Visual Research Institute, 1346 Broadway, Detroit, Michigan 48226

Automation Institute Publishing Co., 821 Market St., San Francisco, Calif. 94103

Automobile Manufacturers Association, 320 New Center Bldg., Detroit, Mich. 48202

Bailey Films, 6509 De Longpre Ave., Hollywood, Calif. 90028

Barnes, A. S., and Co., 11 E. 36th St., New York, N. Y. 10016

Barnes & Noble Inc., 105 Fifth Ave., New York, N. Y. 10003

B'nai B'rith Vocational Service Bureau, 1640 Rhode Island Ave., N.W., Washington, D.C. 20036

Bobbs-Merrill Publishing Co., Inc., 1720 East 38th Street, Indianapolis, Indiana 46218

British Information Service, 30 Rockefeller Plaza, New York, N. Y. 10022

Brown, William C., Co., Publishers, 135 S. Locust St., Dubuque, Iowa 52002

Burroughs Corporation, 219 Park Ave., S., New York, N.Y. 10003

Business Education Films, 4607 16th Ave., Brooklyn, N. Y. 11204

Business Press, Inc., 288 Park Ave., W., Elmhurst, Ill. 60126

Business Screen Magazine, Inc., 7064 Sheridan Road, Chicago, Ill. 60626

Business Teachers Guide, P. O. Box 114, Conway, N. H. 03818

California Test Bureau, 5916 Hollywood Boulevard, Los Angeles, California 90028

Cambridge University Press, 32 E. 57th St., New York, N. Y. 10022

Carter's Ink Company, 80 Varick St., New York, N. Y. 10013

Castle Films, R.C.A. Building, 30 Rockefeller Plaza, New York, N. Y. 10020

Chamber of Commerce of the United States, 1615 H Street, NW, Washington, D. C. 20006

Champion Paper and Fiber Co., Hamilton, Ohio 45013

Charles Beseler, & Company, 219 S. 18th St., East Orange, N. J. 07018

Chandler Publishing Co., 124 Spear Street, San Francisco, California 94105

Chronicle Guidance Publications, Inc., Moravia, N. Y. 13118

City College of New York, 17 Lexington Ave., New York, N. Y. 10010

Cluett, Peabody & Co., Inc., Educational Service Dept., 10 East 40th Street, New York, N.Y. 10016

College Placement Council, Inc., 35 E. Elizabeth Ave., Bethlehem, Pa. 18018

Continental Illinois National Bank and Trust Co., 231 LaSalle St., Chicago, Ill. 60690

Coronet Instructional Films, 65 E. South Water St., Chicago, Ill. 60601

Cram, George F., Company, Inc., 730 E. Washington St., Indianapolis, Ind. 46207

Crim, E. D., Publications, 4271 Leimert Blvd., Los Angeles, Calif. 90008

Dartnell Corp., 4660 Ravenswood Ave., Chicago, Ill. 60640

Data Management Association, 524 Busse Highway, Park Ridge, Ill. 60068

Data Processing Management Association, 505 Busse Highway, Park Ridge, Ill. 60068

Delta Pi Epsilon, Ellis J. Jones, Executive Secretary, Gustavus Adolphus College, St. Peter, Minnesota 56082

Department of Public Instruction, Commonwealth of Pennsylvania, Harrisburg, Pa. 17126

Dick, A. B., Co., The School Department, 5700 St. Touhy Avenue, Chicago, Ill. 60648

Ditto, Inc., Harrison at Oakley Blvd., Chicago, Ill. 60612

Doubleday & Co., Inc., 575 Madison Ave., New York, N. Y. 10022

Eastman Kodak Company, Teaching Films Division, 343 State St., Rochester, N. Y. 14650

Education Research Committee, 777 14th St., NW., Washington, D. C. 20005

Educational Developmental Laboratories, Inc., 284 Pulaski Road, Huntington, L. I., N. Y. 11744

Educational Supplies and Services, 1650 N. Serrano Ave., Los Angeles, Calif. 90027

Educators Progress Service, Randolph, Wis. 53956

Encyclopaedia Britannica Films, Inc., 1150 Wilmette Ave., Wilmette, Ill. 60091

Financial Executives Institute, 50 W. 44th Street, New York, N. Y. 10036

Free Press, The, Glencoe, Ill. 60022

Friden, Inc., 2350 Washington Ave., San Leandro, Calif. 94579

Funk & Wagnalls Co., 360 Lexington Ave., New York, N. Y. 10017

Garden City Books, Garden City, L. I., N. Y. 11535

Gellert-Wolfman Publishing Co., 33 W. 60th Street, New York, N. Y. 10023

Gestetner Duplicator Corp., 324 Fifth Avenue, New York, N. Y. 10001

Geyer-McAllister, Inc., 212 Fifth Avenue, New York, N. Y. 10010

Ginn & Company, Statler Office Bldg., Boston, Mass. 02117

Globe Book Company, 175 Fifth Ave., New York, N. Y. 10010

Grolier Co., 575 Lexington Ave., New York, N. Y. 10022

Grosset & Dunlap, Inc., 1107 Broadway, New York, N. Y. 10010

Hammond, C. S., & Co., Inc., 517 Valley Street, Maplewood, N. J. 07040

Handy, Jam, Organization, 2821 E. Grand Blvd., Detroit, Mich. 48211

Harcourt, Brace, & World, Inc., 757 Third Ave., New York, N. Y. 10017

Harper & Bros. See Harper & Row

Harper & Row, Publishers, 49 E. 33rd St., New York, N. Y. 10016

Heath, D. C., & Company, 285 Columbus Ave., Boston, Mass. 02116

Holt, Rinehart & Winston, Inc., 383 Madison Ave., New York, N. Y. 10017

Hopkins Syndicate, Inc., Syndicate Building, Mellott, Indiana 47958

Houghton Mifflin Co., 2 Park Street, Boston, Mass. 02108

Indiana Bell Telephone Company, 240 North Meridian Street, Indianapolis, Indiana 46204

Industrial Publishing Corp., 812 Huron Road, Cleveland, Ohio 44115

Insurance Information Institute, Director of Educational Relations, 110 William St., New York, N. Y. 10038

Internal Revenue Service, U. S. Dept. of the Treasury, Washington, D. C. 20220

International Business Machines Corp., 590 Madison Ave., New York, N. Y. 10022

Irwin, Richard D., Inc., 1818 Ridge Rd., Homewood, Ill. 60430

Joint Council on Economic Education, The, 2 W. 46th St., New York, N. Y. 10036

Karwood Company, P. O. Box 133, Milwaukee, Wis. 53213

Kippincott, J. B., Co., E. Washington Square, Philadelphia, Pa. 19105

Kraning, Russell W., Indiana University, Gary Center, Gary, Ind. 46408

Lyons and Carnahan, 2500 Prairie Ave., Chicago, Ill. 60616

Mahnke, Carl F., Productions, 215 E. Third St., Des Moines, Iowa 50309

Management Magazines, Inc., 22 West Putnam Ave., Greenwich, Conn. 06830

Management Service Company, 3136 North 34th Street, Philadelphia, Pa. 19132

Manpower, Inc., 820 North Plankinton, Milwaukee, Wisconsin 53203

Martin Publishing Company, Skil-Tests, Box 481, La Mesa, Calif. 92041

Merrill, Charles E., Books, Inc., 1300 Alum Creek Dr., Columbus, Ohio 43216

McGraw-Hill Book Co., Inc., 330 W. 42nd St., New York, N. Y. 10036

McKay, David, Co., Inc., 119 W. 40th St., New York, N. Y. 10018

Macmillan Company, The, 60 Fifth Ave., New York, N. Y. 10011
Merriam, G. & C., Co., 47 Federal St., Springfield, Mass. 01105
Minneapolis-Honeywell Regulator Co., Wayne and Windrim Aves., Philadelphia, Pa. 19144
Modern Talking Picture Service, 3 E. 54th St., New York, N. Y. 10022
Monroe Calculating Machines Co., Educational Dept., Orange, N. J. 07051
Montclair State College, Valley Road, Upper Montclair, N. J. 07043
Moore Business Forms, 210 Post St., San Francisco, Calif. 94108
National Association of Manufacturers, Education Dept., 277 Park Ave., New York, N. Y. 10017
National Business Education Association, 1201 16th Street, N.W., Washington, D. C. 20006
National Association of Secondary School Principals, 1201 16th St., N.W., Washington, D. C. 20006
National Blank Book Company, Holyoke, Mass. 01040
National Education Association, 1201 16th Street, N. W., Washington, D. C. 20036
National Secretaries Association, 18 E. 60th St., New York, N. Y. 10022
Nation's Business, 1615 "H" St., NW, Washington, D. C. 20006
New York University Press, Press Building, 32 Washington Place, New York, N. Y. 10003
OA Business Publications, Inc., 288 Park Avenue, West, Elmhurst, Ill. 60126
Office Publications, 60 E. 42nd Street, New York, N. Y. 10017
Ohio Typewriter Service, 23 W. Amity Road, Cincinnati, Ohio 45215
Oxford Book Co., Inc., 71 Fifth Avenue, New York, N. Y. 10003
Oxford Filing Supply Co., Inc., Clinton Rd., Garden City, L. I., N. Y. 11535
Pitman Publishing Corp., 20 E. 46th St., New York, N. Y. 10017
Poster Visual Aids, 58 Union St., Milford, N. H. 03055
Prentice-Hall Inc., Englewood Cliffs, N. J. 07632
Publisher of Automation. A Penton Publication, Penton Building, Cleveland, Ohio 44013
Psychological Corporation, The, 304 East 45th Street, New York, N. Y. 10017
Psychological Institute, The, Post Office Box 1118, Lake Alfred, Florida 33850
Reinhold Publishing Corp., 430 Park Ave., New York, N. Y. 10022
Remington Rand, Division of Sperry Rand Corp., 315 Fourth Ave., New York, N. Y. 10010
Republic Book Company, 115 E. 53rd St., New York, N. Y. 10022
Rider, John F., 116 W. 14th St., New York, N. Y. 10011
Ronald Press, The, Co., 15 E. 26th St., New York, N. Y. 10010
Rowe, H. M., Company, 624 North Gilmore St., Baltimore, Md. 21217
Royal McBee Corporation, 850 Third Ave., New York, N. Y. 10022
Royal Typewriter Co., 2 Park Avenue, New York, N. Y. 10016
Science Research Associates, 57 West Grand Avenue, Chicago, Ill. 60610
Scott, Foresman, and Co., 433 E. Erie St., Chicago, Ill. 60611
Simon & Schuster, Inc., 630 Fifth Ave., New York, N. Y. 10020
Singer, L. W., Co., Inc., 249-259 W. Erie Blvd., Syracuse, N. Y. 13202

Smead Manufacturing Company, 309-311 Second Ave., Hastings, Minn. 55033
Smith-Corona-Marchant Inc., 410 Park Ave., New York, N. Y. 10022
Society for Visual Education Inc., 1345 W. Diversey Parkway, Chicago, Ill. 60614
Sound Education, Box 414, Port Huron, Mich. 48061
Soundscriber Corp., 140 Munson St., New Haven, Conn. 06711
South-Western Publishing Co., Inc., 5101 Madison Rd., Cincinnati, Ohio 45227
Special Teaching Aids, 3408 N. Potomac Street, Arlington, Va. 22213
Standard Packaging Corp., Advertising Mgr., 200 E. 43rd St., New York, N. Y. 10017
Standard Register Company, 250 Park Ave., New York, N. Y. 10017
State University of Iowa, Ames, Iowa 50012
Stenotype Company, 417 S. Dearborn St., Chicago, Ill. 60605
Sterling Publishing Company, Inc., 419 Park Ave., S., New York, N. Y. 10016
Superintendent of Documents, U. S. Government Printing Office, Washington, D. C. 20402
System Development Corporation, 350 Fifth Ave., New York, N. Y. 10001
Teaching Aids Exchange, 307 South B. St., San Mateo, Calif. 94401
Teaching Aids, Inc., P. O. Box 3527, Long Beach, Calif. 90803
The publisher of American Business, 4660 Ravenswood Ave., Chicago, Ill. 60640
The publisher of The Typing Teacher, 4006 Carlisle Ave., Baltimore, Md. 21216
Thompson, F. D., Publications, Inc., 141 E. 44th Street, New York, N. Y. 10017
TMI Grolier, 575 Lexington Avenue, New York, N. Y. 10022
Typing Teacher, The, 4006 Carlisle Ave., Baltimore, Md. 21216
Underwood Corporation, 1 Park Ave., New York, N. Y. 10016
United Business Schools Association, 1518 "K" St., NW, Washington, D. C. 20005
United Business Publications, Inc., 200 Madison Ave., New York, N. Y. 10016
United World Films, Inc., 1445 Park Ave., New York, N. Y. 10029
University of California, Berkeley, Calif. 94720
University of Colorado, Boulder, Colo. 80304
University of Michigan, Ann Arbor, Mich. 48103
University of Southern California, Los Angeles, Calif. 90007
Van Nostrand, D., Co., Inc.,120 Alexander St., Princeton, N. J. 08541
Victor Adding Machine Co., Business Education Dept., Chicago, Ill. 60618
Wadsworth Publishing Co., 10 Davis Drive, Belmont, Calif. 94002
Wiley, John, & Sons, Inc., 440 Fourth Ave., New York, N. Y. 10016
Yale University Press, 206 Elm St., New Haven, Conn. 06711
Young America Films, 330 W. 42nd St., New York, N. Y. 10036

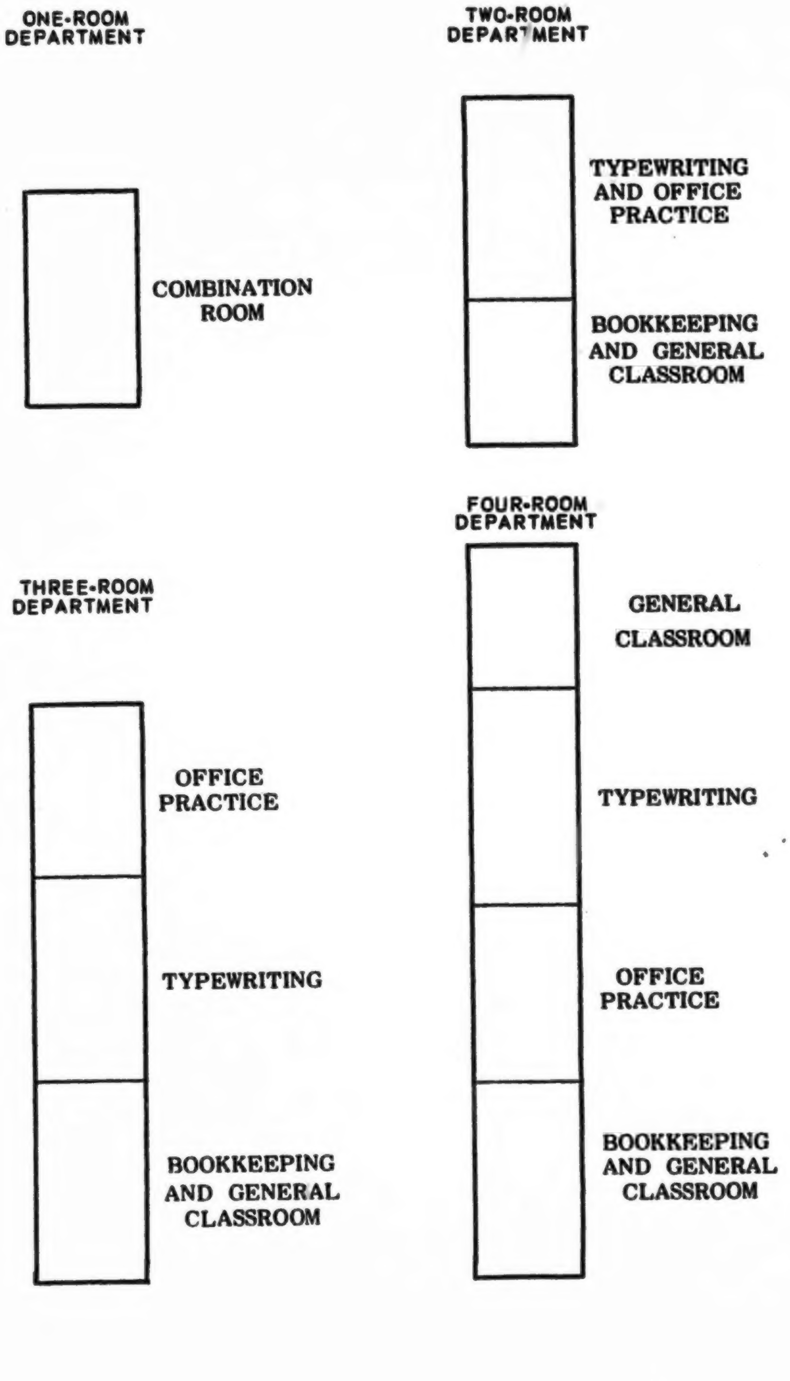
## APPENDIX F - PHYSICAL FACILITIES LAYOUTS AND SUGGESTED EQUIPMENT

### TYPICAL FACILITIES LAYOUTS

Requirements for physical facilities cannot be estimated in advance for any particular location. These requirements will be affected by trainee populations, available instructional time and present facility adequacy.

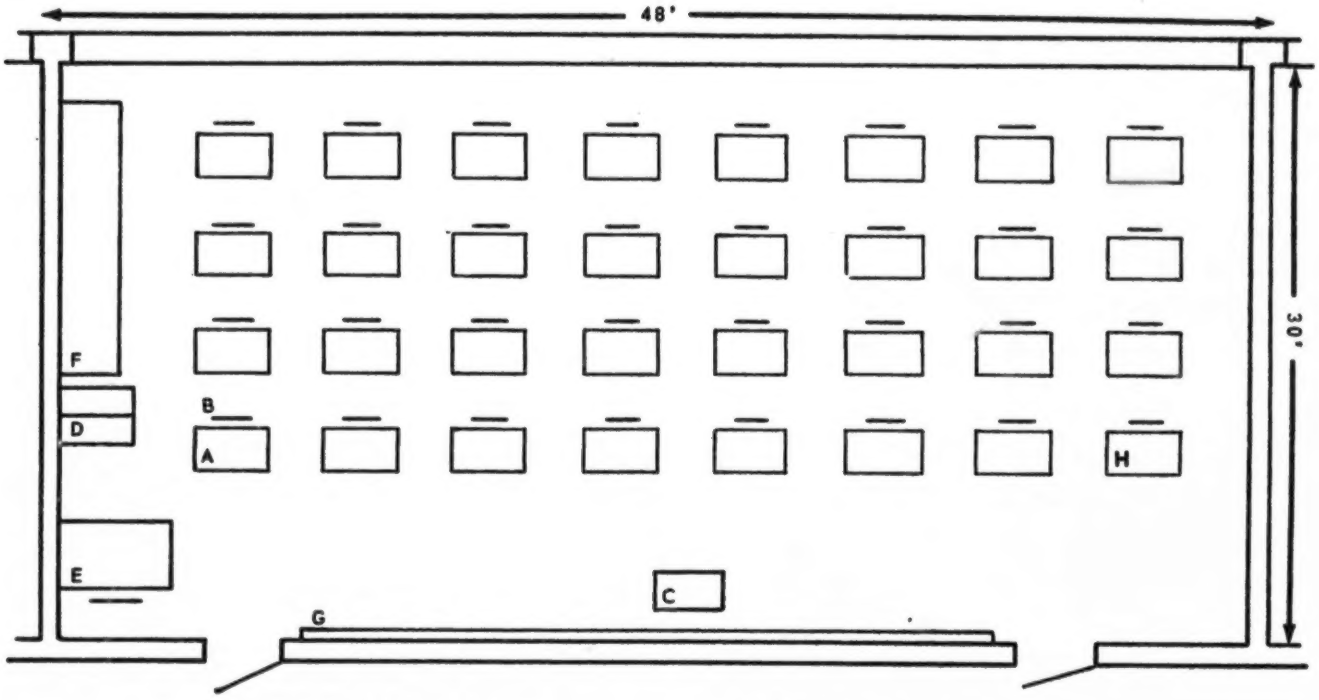
Two layouts are shown. The first is reprinted by permission of the California State Department of Education from Bulletin No. 68. It is suggestive of a four-room layout of business education facilities. Should the number of trainees be greater or smaller, than these layouts can accommodate, then necessary adjustments are indicated.

SUGGESTED BUSINESS EDUCATION ROOM ARRANGEMENTS


ONE-ROOM DEPARTMENT
COMBINATION ROOM
TWO-ROOM DEPARTMENT
TYPEWRITING AND OFFICE PRACTICE
BOOKKEEPING AND GENERAL CLASSROOM
THREE-ROOM DEPARTMENT
OFFICE PRACTICE
TYPEWRITING
BOOKKEEPING AND GENERAL CLASSROOM
FOUR-ROOM DEPARTMENT
GENERAL CLASSROOM
TYPEWRITING
OFFICE PRACTICE
BOOKKEEPING AND GENERAL CLASSROOM

TYPEWRITING ROOM

32 trainees



A-Single Typewriter Desks
B-Student Posture Chairs
C-Demonstration Stand
D-Filing Cabinets

E-Teacher's Desk and Chair
F-Storage Facilities
G-Chalkboard and Bulletin Boards
H-Electric Typewriters

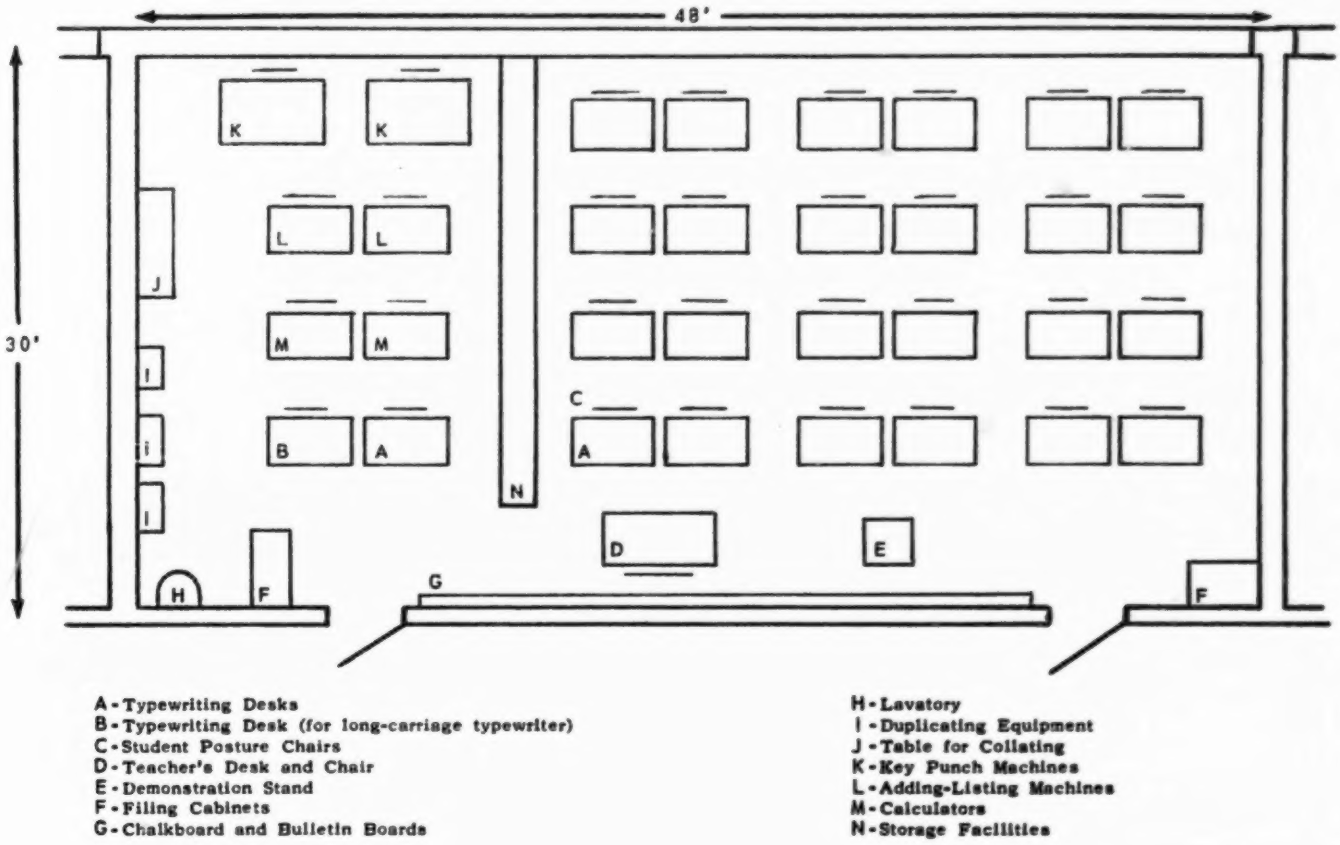
SUGGESTED EQUIPMENT

Estimated Costs-Cincinnati, Ohio
July 1, 1966

| Equipment (including furniture) that might be provided in a typewriting room includes: | Unit | Total |
|---|---|---|
| General Equipment | | |
| 32 desks | $ 93 | $ 2,976 |
| 32 posture chairs | 30 | 960 |
| 32 copyholders | 2 | 64 |
| 31 standard typewriters (1 for demonstration purposes and 2 for replacement purposes) | 160 | 4,960 |
| 4 standard electric typewriters | 300 | 1,200 |
| 1 demonstration stand | 50 | 50 |
| 2 filing cabinets (18 by 36 inches) | 100 | 200 |
| 1 teacher's desk (desk top: 32 by 54 inches) and accompanying chair | 160 | 160 |
| Miscellaneous Equipment | | |
| 1 interval timer | 12 | 12 |
| 1 stop watch | 33 | 33 |
| 1 paper cutter | 29 | 29 |
| 1 pencil sharpener | 5 | 5 |
| 2 staplers | 7 | 14 |
| 2 wastebaskets | 6 | 12 |
| 2 desk trays | 4 | 8 |
| TOTAL | | $10,683. |

Courtesy of William Selden, Pennsylvania State Department of Education, and South-Western Publishing Co., Inc.

COMBINATION ROOM



A - Typewriting Desks
B - Typewriting Desk (for long-carriage typewriter)
C - Student Posture Chairs
D - Teacher's Desk and Chair
E - Demonstration Stand
F - Filing Cabinets
G - Chalkboard and Bulletin Boards
H - Lavatory
I - Duplicating Equipment
J - Table for Collating
K - Key Punch Machines
L - Adding-Listing Machines
M - Calculators
N - Storage Facilities

## SUGGESTED EQUIPMENT*

Estimated Costs-Cincinnati, Ohio
July 1, 1966

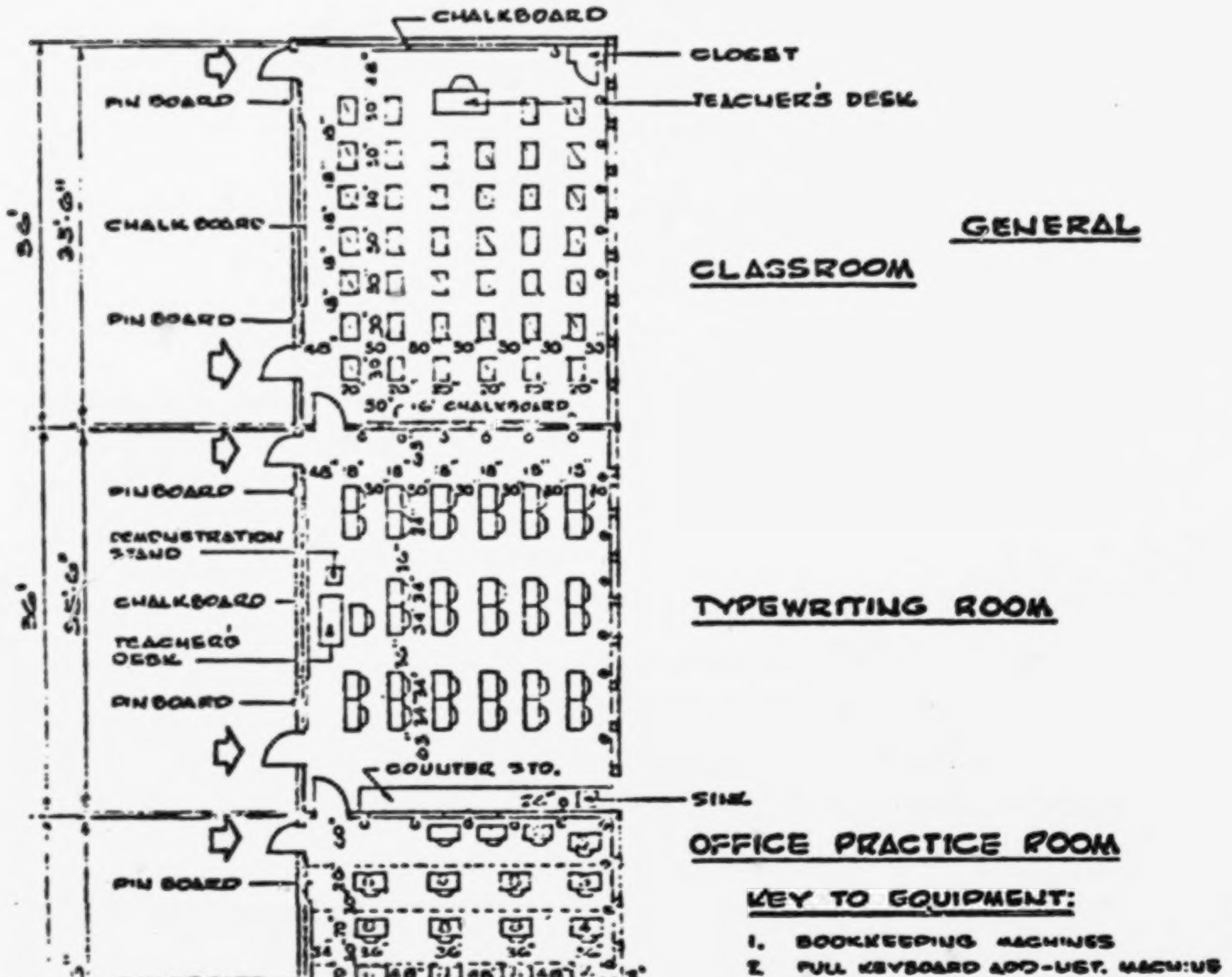
| General Equipment | Unit | Total |
|---|---|---|
| 24 individual desks, single pedestal with typewriting "L" on one side (desk top 30 by 45 inches, "L" 18 by 24 inches) | $160 | $ 3,840 |
| 6 desks or tables (adjustable height from 24 to 30 inches, table top 24 by 36 inches) | 70 | 420 |
| 1 worktable, 30 inches in height (table top: 30 by 50 inches) | 75 | 75 |
| 32 posture chairs | 30 | 960 |
| 22 standard typewriters (1 for demonstration purposes, and 2 for replacement purposes) | 160 | 3,520 |
| 5 standard electric typewriters | 300 | 1,500 |
| 1 long-carriage electric typewriter (to be used in conjunction with the duplicating equipment) | 350 | 350 |
| 1 stencil duplicator and cabinet | 500 | 500 |
| 1 fluid duplicator and cabinet | 300 | 300 |
| 1 drawing board including lettering guides, screen plates, and styli | 100 | 100 |
| 1 full-bank adding-listing machine | 225 | 225 |
| 1 ten-key adding-listing machine | 300 | 300 |
| 1 rotary calculator (elec.) | 850 | 850 |
| 1 key-driven calculator (elec.) | 500 | 500 |
| 2 key punch machines (check on rental charges) | --- | --- |
| 2 transcribing machines | 250 | 500 |
| 1 demonstration stand | 50 | 50 |
| 1 bookcase or open bookshelves (10 by 36 inches) | 90 | 90 |
| 2 filing cabinets (18 by 36 inches) | 100 | 200 |
| 1 teacher's desk (desk top: 32 by 54 inches) and accompanying chair | 160 | 160 |

| General Equipment (Continued) | Unit | Total |
|---|---|---|
| 2 desk trays | 4 | 8 |
| 1 paper cutter | 29 | 29 |
| 1 paper punch | 10 | 10 |
| 1 pencil sharpener | 5 | 5 |
| 1 stapler | 7 | 7 |
| 2 wastebaskets | 6 | 12 |
| TOTAL | | $14,563. |

Courtesy of William Selden, Pennsylvania State Department of Education, and South-Western Publishing Co., Inc.

*The equipment listed is minimal; it should be kept in mind that additional pieces of equipment must be purchased for certain courses if classroom operating proficiency is required. Frequently, it is desirable for the trainee to receive his "hands on" machine training on the job because of the great variety of office machines in use in offices. Such machines might include: various bookkeeping machines, posting machines, cash registers, tabulating machines, and various pieces of data processing equipment.

## FOUR ROOM UNIT


CHALKBOARD
CLOSET
TEACHER'S DESK
PIN BOARD
CHALKBOARD
PIN BOARD
GENERAL CLASSROOM
16' CHALKBOARD
PINBOARD
DEMONSTRATION STAND
CHALKBOARD
TEACHERS DESK
PINBOARD
COUNTER STO.
SINK
TYPEWRITING ROOM
OFFICE PRACTICE ROOM
PIN BOARD
CHALKBOARD
TEACHER'S DESK
PINBOARD
CLOSET
SINK
KEY TO EQUIPMENT:
1. BOOKKEEPING MACHINES
2. FULL KEYBOARD ADD-LIST. MACHINES
3. 10-KEY ADD-LIST. MACHINES
4. KEY CALCULATORS
5. ROTARY CALCULATORS
6. TRANSCRIBING MACHINE
7. DUPLICATORS
8. STANDARD TYPEWRITERS
9. LONG-CARRIAGE TYPEWRITERS
10. WORK TABLES
DRAWING BOARD
FILE
CLOSET
ADDING MACH.
COUNTER
PIN BOARD
CHALKBOARD
PINBOARD
BOOKKEEPING & GENERAL CLASSROOM
TEACHER'S DESK
CHALKBD.
29'
30'
36'
35'-6"
SCALE 1/10"=1'-0"

Courtesy of Bureau of Business Education, California State Department of Education and South-Western Publishing Co., Inc.

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